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BULLETIN OF
THE NEW YORK ACADEMY
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OCTOBER 1943

THE MANAGEMENT OF RHEUMATIC FEVER *

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It is significant of the progress that has been made in understanding the nature of rheumatic heart disease that, in being invited to take part in a series of papers on cardiovascular diseases, I have been asked to discuss the management, not of rheumatic heart disease, but of rheumatic fever in general. Not many years ago this would scarcely have happened, but today it is generally appreciated that rheumatic heart disease must be thought of primarily in terms of the underlying rheumatic infection. Only in the so-called inactive phase of rheumatic cardiac disease is rheumatic fever per se not an immediate problem, and even here the physician must be constantly mindful of it because of the danger of recurrent attacks.

At this point it may be well to define some of the terms in the sense in which they will be used in this discussion. Rheumatic fever of course requires no definition other than to say that it is used here in its broad sense and embraces all manifestations of active rheumatic infec-

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tion including polyarthritis, fever, carditis, subcutaneous nodules, chorea, rheumatic pleuritis, rashes and others. The adjective acute is, happily, dropping out of use as part of the name of rheumatic fever. Certainly the disease often presents acute and even fulminating phases, but it is essentially a chronic disease extending over a period of months rather than weeks. Rheumatic heart disease is divisible into two principal phases: active and inactive. Active rheumatic heart disease is synonymous with carditis and is the major manifestation of rheumatic fever. Inactive rheumatic heart disease, on the other hand, is the stage of mechanical damage resulting from the previous active inflammation.

In this paper I wish to take up the management of the following: (1) the acute phase of rheumatic fever, (2) the subacute and chronic phases, (3) inactive rheumatic heart disease, (4) certain special forms of therapy, and (5) preventive measures.

Management of the Acute Attack

The acute manifestations of rheumatic fever are mainly polyarthritis, fever and the acute form of carditis. However, others such as chorea, pleuritis or abdominal manifestations may also occur acutely. Good nursing care is a great asset, as in any acute febrile disease accompanied by pain, not only in helping the patient but also in allaying the anxiety of the relatives.

Rest is of the greatest importance. During the acute phase of the disease the physician does not face the difficulty of obtaining the patient's coöperation that he is apt to later in the illness, but rest is often interfered with by pain and orthopnea. Cardiac pain often is aided by an ice bag applied to the precordium but codeine or even morphine may be needed. If dyspnea and orthopnea are present the patient should have a bed of the Gatch type or, if this is not possible, should be propped up with pillows.

The *diet* of the acutely ill patient should not be forced and should be light, easily digested and liquid or semi-solid. However, as soon as he feels like eating a regular diet may be given. As a rule, fluids should be forced in order to replace water lost through sweating, but in the presence of severe heart failure fluids should be limited to 800 to 1,500 cc. in twenty-four hours depending upon the age and size of the patient.

Polyarthritis and Fever: These are two manifestations easiest to control and can be considered together as they respond to the same meas-

ures, i. e., the so-called antirheumatic drugs. Formerly, much attention was given to cooling baths to reduce fever and proper splinting and local applications for the arthritis; but the antirheumatic drugs are so effective that these earlier procedures are no longer advisable. Indeed they are actually contraindicated as the benefits would be more than offset by the pain resulting from application of the procedures. However, splinting by means of soft pillows properly placed under and around the inflamed joints often is helpful during the hours before the effect of the drugs has been obtained.

The antirheumatic drugs include the salicylates, cinchoninic acid derivatives and aminopyrine. Nothing in the whole field of therapeutics is more dramatic than the response of the fever and polyarthritis to adequate doses of these drugs. The fever falls sharply to normal, other evidences of toxemia disappear and the joint pain and tenderness as well as other signs of local inflammation subside rapidly. Unfortunately, these striking benefits are not accompanied by improvement in the carditis and other rheumatic manifestations such as nodules, rashes, pleuritis and chorea.

Given in adequate therapeutic doses the various drugs are equally beneficial and none accomplishes more than the others. The full therapeutic dose of sodium salicylate, acetyl salicylic acid and neocinchophen is essentially the same: 8 to 10 grams (120 to 150 grains) daily. This amount can be given very satisfactorily in divided doses of 1 gram (15 grains) each every hour for eight to ten doses or until the first signs of toxicity appear. The commonest of these are nausea, vomiting, tinnitus and less often visual disturbances, but if carefully watched for and if the drugs are given in doses no larger than 1 gram each, they should not become very troublesome. Aminopyrine accomplishes no more than the others but dose for dose is much more effective. Thus 0.6 gram (10 grains) four times daily is sufficient to obtain an optimum effect. Given in these small amounts it has the advantage of rarely causing nausea or other symptoms. However, its use should be limited to patients under close observation because of its capacity to induce granulocytopenia. Cinchophen is also a moderately effective antirheumatic drug but is inferior to neocinchophen and should not be used because of its tendency to cause hepatitis.

Whichever of the drugs is employed, the general principles are the same. The full therapeutic dose should be given for several days and

then should gradually be reduced—about 0.3 gram (5 grains) daily in the case of aminopyrine and about 1.0 gram (15 grains) daily for the others. If joint pain returns the dose is increased and if toxic signs appear the medication is stopped completely for one day and then resumed in smaller doses.

Carditis: This is, of course, the most serious and important manifestation of rheumatic fever and the one of most concern to the physician. Unfortunately, as has been noted above, carditis is not benefitted by the antirheumatic drugs. Te be sure, a few opinions to the contrary have been recorded. Thus Findlay[1] stated that salicylates given early in polyarthritis protect the heart from damage, and Heninger and McHardy[2] believed that aminopyrine has therapeutic value in carditis. Unfortunately, however, carefully controlled studies[3, 4, 5] do not bear out these claims and it is common experience that pericarditis, cardiac failure and subcutaneous nodules can appear in patients receiving full therapeutic doses of antirheumatic drugs. Probably the inflamed myocardium and valves are helped indirectly by the decrease in heart rate which accompanies the drug-induced fall in fever, but it can be accepted that there is no "specific" beneficial action on the carditis like that on the arthritis. One possible exception is that reported by Boas and Ellenberg[6] who observed striking decrease in the amount of pericardial fluid in a number of patients with massive pericardial effusions given large doses of salicylates. No published reports by others confirming this observation have yet appeared, but on our Children's Medical Service at Bellevue Hospital the impression has grown that pericardial aspiration has been less frequently necessary since the suggestion of Boas and Ellenberg has been followed.[7] Certainly further corroboration is needed but the observation appears to be correct and, if so, marks an advance in the treatment of rheumatic pericarditis. Apparently the action is on the effusion for, as has been already noted, salicylates do not prevent pericarditis. However, this action is important, for a serious danger in pericarditis is cardiac tamponade from too massive an effusion. Other than the salicylates, treatment consists of aspiration of the pericardial effusion. Unless done for diagnostic purposes it is necessary only if the amount of fluid is large enough to interfere with cardiac function and add to respiratory distress. In children, aspiration can usually be done easily by the posterior approach as described by Sutton[8] but in adults the anterior approach is usual.

Aside from therapy directed against the effusion, the principal measure in the treatment of pericarditis is the same as that of carditis as a whole, namely, complete bed rest. If cardiac pain is distressing, relief is often afforded by an ice cap applied to the precordium but codeine or morphine should be given if necessary.

Heart failure occurring in rheumatic carditis must be treated essentially like that due to heart disease of any other etiological type, with the exception that particular care must be taken to avoid digitalis toxicity. Formerly the view was rather widely held that digitalis was contraindicated in the presence of active carditis. Today there would be few who would make such a statement, for the drug is life-saving in many instances. It is true, however, that toxic arrhythmias may occur as a result of over-digitalization in carditis, perhaps because of the increased irritability of the inflamed myocardium. It should be added that digitalis will not change the eventual course of congestive failure in carditis unless the carditis itself improves. One should not hesitate to use digitalis when indicated, but should give it in somewhat smaller doses than usual and observe the patient carefully for toxic symptoms. Using a preparation of powdered leaf standardized so that 0.1 gram (1½ grains) equals one digitalis unit, a convenient method is to give 0.4 gram as an initial dose followed by 0.2 gram six hours later and then by 0.2 gram morning and afternoon until a therapeutic effect has been noted or suspicious evidence of beginning digitalis toxicity appears. A maintenance dose of 0.1 or 0.2 gram daily will then usually suffice. Other measures, such as restriction of fluid and salt intake and the use of diuretics, are the same as in any other form of congestive heart failure. It is not necessary to consider them in detail here since Dr. Gold has already done so in an earlier paper of this series.

Cardiac Arrhythmias: Arrhythmias occurring during the course of active rheumatic carditis may be of serious import or may have merely symptomatic or diagnostic significance. Auricular fibrillation may occur merely as a toxic arrhythmia and disappear after a few hours to a few weeks either spontaneously or under the influence of quinidine. On the other hand, it may be permanent especially if gross valvular damage has been done in previous rheumatic attacks, and in these instances digitalis must be used. Dr. DeGraff will discuss this subject more fully in a later paper. Premature contractions and prolongation of the atrio-ventricular conduction time, with or without dropping of beats, are transient phe-

nomena in carditis and require no treatment as a rule.

Pleuritis: Early in pleuritis, when pain is present, codeine usually is indicated. Strapping the chest has rarely been necessary in our patients as the pain usually disappears in a day or two as the effusion accumulates. As in the case of pericarditis, thoracentesis need be done only for diagnosis or if the amount of fluid becomes so great as to add to circulatory and respiratory difficulty. The procedure is easily carried out by inserting the needle posteriorly at the point where dulness is greatest. It has been believed that the antirheumatic drugs are of no benefit in rheumatic pleuritis but this warrants re-study in the light of the report of Boas and Ellenberg[8] to see if they might help limit the amount of the effusion.

Abdominal Manifestations: The therapeutic problem presented by rheumatic abdominal pain is mainly one of diagnosis. This manifestation, which occurs chiefly in children, is not very common, but tends to come early in the disease before other evidences of rheumatic fever have appeared. Thus it is apt to be mistaken for suppurative appendicitis. Rheumatic abdominal pain requires no treatment other than an ice cap and a trial of antirheumatic medication, which seldom helps in our experience. When in doubt about operation, we believe it should be done, for an unnecessary operation probably would not cause any serious harm to the rheumatic subject, whereas failure to operate when needed might prove fatal.

Chorea: This manifestation usually is subacute rather than acute and requires no therapy other than sedation, rest in a quiet room, and sympathetic handling of the emotional instability. For sedation, phenobarbital .03 gram (½ grain) three or four times daily usually is sufficient. When chorea occurs acutely and violently, the patient must have careful nursing to guard against injury from his own uncontrolled movements. In these cases fever therapy should be given either by means of foreign protein injection or one of the more complicated but more efficient electrical methods. The aim of treatment is to induce a rise of temperature to 104°-105° F. and maintain it three to five hours. Depending on the severity of the chorea, two to twenty (average six) treatments may be necessary. Detailed descriptions of the techniques cannot be given here but can be found elsewhere.[9, 10, 11, 12] Fever therapy should be used also in less violent chorea if it does not respond satisfactorily to the usual conservative measures. Whether fever therapy given

early tends to minimize the development of cardiac damage is not fully answered but I believe is doubtful. Arsenic and salicylates, which formerly were used, have been found to be of no benefit.

Subcutaneous Nodules and Rashes. These manifestations are not influenced by medication and require no treatment other than that of the disease in general.

Management of the Subacute and Chronic Phase

This phase of rheumatic fever is essentially one of low-grade carditis accompanied usually by mild fever and anemia and often by other rheumatic manifestations such as rashes and subcutaneous nodules and by occasional vague joint pains.

Rest is again the principal therapeutic measure in association with supportive care and the treatment of symptoms as they arise. Unfortunately, the enforcement of rest is often a very real problem at this stage of the disease, for the patient usually feels quite well. Hence the patient and his parents must understand the nature of the disease if the necessary coöperation is to be obtained. It is also important to establish certain criteria which must be met before the disease can be considered inactive and the patient ready to be out of bed. We have found the following requirement satisfactory: (a) normal rectal temperature, pulse and leukocyte count for ten consecutive days in the absence of antirheumatic drugs; (b) freedom from all manifestations of rheumatic activity such as rashes, subcutaneous nodules and joint pain; (c) normal auriculoventricular conduction time; (d) satisfactory increase in weight and in erythrocyte count and hemoglobin; (e) return of the erythrocyte sedimentation to, or nearly to, normal; and (f) satisfactory improvement in the patient's general condition. When improvement has advanced to this point, the patient may begin to sit up in a chair for a half hour morning and afternoon and this may be increased about a half hour each day until most of the day is spent out of bed. Walking on the level may then be gradually allowed and finally stair-climbing may be undertaken. Needless to say, if signs of increased rheumatic activity appear at any time, bed rest must be temporarily resumed. One cannot prophesy how long will be required for a given patient to progress from the start of his illness to complete quiescence of the rheumatic infection, but in a group of 72 patients reported by Swift[18] the range was from 30 to 255 days with an average of about four months.

Diet in the subacute phase of rheumatic fever plays a role second only to rest. The therapeutic aim, as in tuberculosis, is to support the patient as effectively as possible while he is overcoming his long-continued, systemic infection. Therefore, as soon as the acute stage has subsided, a nourishing diet should be given. There are no particular requirements other than that the diet shall be well balanced and sufficiently varied and appetizing to encourage the patient to eat. As improvement occurs, the lack of exercise coupled with good food may lead to too great an increase in weight, and the diet may have to be reduced.

Anemia of the secondary type almost always develops if care is not taken to combat it. Ferrous sulphate 0.3 gram (5 grains) t. i. d. after meals is very satisfactory for this purpose. Very rarely it may be advisable to give one or two transfusions of whole blood if anemia is progressive in spite of iron therapy. If so, not more than 200 to 400 cc. should be given at a time and administration should be slow in order to avoid any sudden increase in blood volume with resultant cardiac embarrassment.

General care is an all inclusive term in a long-continued disease like rheumatic fever but certainly special thought must be given to the patient's morale and that of his family. Psychotherapy of the type that can be practiced by every physician is particularly important, for the patient is apt to become morose, introspective or spoiled if not wisely handled. Occupational therapy is an exceedingly useful adjunct and makes the problem of insuring adequate bed rest less difficult. One of the best forms of occupational therapy for rheumatic children is home schooling, for these patients are apt to miss much of their regular school work during their repeated rheumatic attacks. This is made more serious by the fact that they probably must earn their living later in life by types of work which do not require physical exertion and for which they will be unfitted if they are not educated.

Convalescent care in special types of institutions has increased in recent years. In the case of rheumatic fever, these institutions must provide complete bed rest if they are to be suitable for the patient who still has the active disease. If they do not, they are satisfactory for the patient whose rheumatic fever has reached the completely quiescent stage but may actually do harm to those with active infection through requiring too much physical exertion. In other words, rest should be of the type provided in sanitoria for tuberculous patients. One of the disadvantages

of institutional convalescent care for rheumatic patients is the danger of ward epidemics of respiratory infections with resultant rheumatic recrudescences. For this reason the "cottage" type of convalescent institution should offer advantages over those based on a system of larger wards.

The Management of Inactive Rheumatic Heart Disease

This must be considered separately for patients with and without symptoms of congestive failure. In the absence of symptoms no therapy is required for the heart disease per se, and proper management consists of measures designed to prevent recurrent attacks of rheumatic fever, and seeing the patient at intervals of three to twelve months to observe his progress and give advice where it is needed. In these patients we believe that any but the most strenuous competitive sports may be allowed and, indeed, encouraged; for too close supervision and restriction can lead to the development of cardiac neuroses.

If symptoms of congestive failure appear, the physician must decide whether they are due to the return of active rheumatic carditis, failure from purely mechanical cardiac insufficiency, or a cardiac neurosis. If active carditis is present, management immediately becomes that of the acute or of the subacute and chronic phases as already discussed. If purely mechanical factors are at play, management consists of rest, restriction of fluid, and the use of digitalis and various diuretics as has been discussed by Dr. Gold in an earlier paper of this series.

Special Forms of Therapy

In addition to the important general principles in the treatment of rheumatic fever which have been considered above, a number of special forms of therapy warrant brief discussion.

Specific Therapy. This has been attempted by various means but all have proved to be valueless. Serum therapy of rheumatic fever was tried by Menzer[14] in 1902 and more recently by Small.[15] Carefully controlled studies,[16, 17, 18] however, showed no beneficial effect. Vaccine therapy introduced by Swift and his coworkers,[19, 20, 21] at first seemed promising but more prolonged observations were disappointing[22] and it was found that vaccines may be actually harmful. Convalescent serum and transfusions of whole blood obtained from donors convalescent from rheumatic fever also have been tried without success.[23, 24]

Sulfanilamide, naturally enough, was tried in the treatment of rheumatic fever soon after its effectiveness against hemolytic streptococci was demonstrated. Its value in prophylaxis will be discussed below but it is useless or even harmful once the disease has begun.[25, 26, 27]

Climatotherapy was suggested as a rational procedure in rheumatic fever by the well known fact that the disease is less common and less acute in the southern United States than in the north. Because of this, Coburn[28] transported a group of rheumatic children from New York to Puerto Rico. He noted distinct improvement while they were in this subtropical climate but relapses occurred soon after the return to New York City. Jones and his collaborators[29] obtained much less striking results in a group transported from Boston to Miami but the evidence seems to indicate that climatotherapy is valuable in selected cases of long-standing, low-grade activity if the expense involved can be borne.

Physical therapy has at least one important application in rheumatic fever in the form of fever therapy for severe chorea as noted above.[9, 10, 11, 12] Another possible application is the use of x-ray therapy in the treatment of persistent low-grade carditis as suggested by Levy and Golden,[30, 31] This requires confirmation by others, however, before its value can be assessed with any certainty.

Eradication of foci of infection, especially infected tonsils, has been widely used and seems a logical procedure in view of the frequency with which rheumatic attacks follow tonsillitis. Among those advocating tonsillectomy, a few[32] recommend it early in the acute phase of rheumatic fever but most believe it to be dangerous at that time and allowable only during convalescence. Careful statistical studies, on the other hand, reveal no evidence that tonsillectomy favorably affects the course of rheumatic fever and indicate that once that disease has appeared, rheumatic relapses occur with approximately equal frequency whether or not tonsillectomy is performed.[33, 34, 35, 36] There is even less to suggest that treatment of other localized infections, such as those of the teeth and sinuses, exerts any direct benefit on rheumatic fever. Thus it is our practice to perform these various operations only if the respective infections are such that they should be eradicated for the benefit of the patient's general health, irrespective of his rheumatic fever.

PREVENTIVE MEASURES

Most of the important recent advances in the care of the rheumatic

subject are in the field of preventing recurrent attacks. Although some of these still require the test of time for a final evaluation, they appear to be very promising. The great importance of such measures is clear when one takes into account the fact that rheumatic fever seldom is fatal in the first attack and that the chief hazard is one of progressive cardiac damage incurred in each subsequent attack.

Avoidance of Infections: The accumulating evidence that hemolytic streptococcal infections in rheumatic subjects are apt to be followed by new attacks of rheumatic fever, clearly indicates the importance of avoiding them in every possible way. Even in the hospital, nurses and interns must be warned of the danger of placing patients with tonsillitis near those convalescing from rheumatic fever, and visitors and attendants with respiratory infections must be kept away. In the home, pains must be taken to make other members of the family understand that what is just a simple sore throat to them may be a potential attack of rheumatic fever to the rheumatic subject and they must be taught simple isolation techniques.

Tonsillectomy: It was noted above that tonsillectomy does not seem to reduce the likelihood of recurrences once rheumatic fever has appeared, but Kaiser's studies[36] suggest that the operation tends to prevent the disease in those who are not already rheumatic subjects. On the supposition that this is correct we believe it advisable to recommend tonsillectomy for children with a family history of rheumatic fever, especially if they are liable to sore throats.

Climate: For the reasons already mentioned, it seems probable that rheumatic patients may escape further attacks by living in certain subtropical areas. For those who cannot make their permanent homes in the south, a sojourn there may be beneficial during the winter and spring months when rheumatic fever is most prevalent in the north. Obviously this is not a practical measure for many because of the cost.

Sulfanilamide: Although this drug does not favorably influence the course of disease once rheumatic fever or its antecedent hemolytic streptococcus infection has started, the use of sulfanilamide to prevent the "trigger" infection is one of the most promising prophylactic measures yet attempted for this disease. Introduced independently by Thomas and France[37] and Coburn and Moore[27] in 1939, the method has been studied subsequently by others.[38,39,40] The aim is to give a daily maintenance dose of sulfanilamide throughout the year or during the period

from December to the end of May when rheumatic fever is most apt to occur. A convenient method is to give two doses of 0.6 gram (10 grains) daily—morning and evening. Within limits the size of the patient is of minor importance, though Kuttner[39] recommends increasing the dose to between 1.3 and 2.0 grams (20 to 30 grains) daily for children weighing more than 75 pounds. In terms of concentration of sulfanilamide in the blood, a level of 2 mg. per cent appears to be adequate. Thomas[41] has summarized the total experience of the various studies referred to above as follows: in a total of 648 patient-seasons there have been six attacks of recurrent rheumatic fever, whereas the experience in control groups of rheumatic children not receiving sulfanilamide prophylactically would lead one to expect an incidence of 130 attacks. For the most part, the children have tolerated the drug well. Nausea, rashes and fever have been the chief toxic manifestations but only Stowell and Button[38] found it necessary to discontinue medication because of these symptoms in any large number of patients. They also reported the one death, which was due to agranulocytosis. There is general agreement that toxic manifestations appear chiefly from the 14th to the 50th day. Therefore the closet observation of patients under treatment is necessary during that period but subsequently may be somewhat less painstaking. Because of the newness of the procedure and the possible occurrence of toxic symptoms it would be wise for anyone planning to use sulfanilamide in this way to study carefully the original articles referred to above. As yet there has been no report of experience with other drugs of the sulfonamide series.

Salicylates: For a number of years there have been some[42] who have believed that the administration of salicylates to rheumatic patients who acquired sore throats would prevent the development of rheumatic flare-ups. In this country, however, little attention has been paid to this suggestion because of the known inability of the antirheumatic drugs to affect the course of carditis. Recently, however, Coburn and Moore[43] have reported favorably their experience with it. They gave 4 to 6 grams (60 to 90 grains) of salicylate daily during the period of sore throat and for several weeks thereafter. Among forty-seven rheumatic patients receiving this therapy only one rheumatic flare-up occurred, while among 139 control patients there were 57 such flare-ups. The procedure clearly needs further corroboration but has promise of being of great importance. It is, of course, harmless, but the physician apply-

ing it assumes a very real responsibility to observe the patient with the greatest care to make sure that rheumatic fever actually is not occurring but with its more outspoken symptoms masked by the drug.

Vaccines: The lack of success with vaccines in treating rheumatic fever has already been mentioned, and their value in preventing new attacks is also very doubtful. Recently[44] it has been reported that rheumatic children given a filtrate prepared from hemolytic streptococci had fewer subsequent attacks than did untreated children. Results with ordinary vaccines[22] and our own limited experience with filtrates,[23] however, have been disappointing and confirmation is needed.

General Hygiene: In conclusion I wish merely to refer to the relative infrequency of rheumatic fever among the well-to-do compared with its incidence among the poor. This indicates the bearing that poor housing, crowding and poor general hygiene have on the disease and suggests that slum clearance projects and similar sociological advances will do much to help reduce the importance of this dread disease.

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THE TREATMENT OF RHEUMATOID ARTHRITIS INCLUDING GOLD SALTS THERAPY*

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RHEUMATOID arthritis is a common disorder of the joints, almost never causing death but frequently causing prolonged disability. Although it is considered to be an infectious disease, its exact cause is still unknown. Rarely does one see spontaneous recovery once the disease is well established. In the past, available treatment did not produce satisfactory results, but since the advent of gold salts therapy we may expect an inactivation of the disease in about 50 per cent of properly treated cases.

Rheumatoid arthritis starts insidiously, or acutely with signs of active infection. Females between 18 and 40 are most commonly affected, although no age is exempt. There are soft fluctuant swellings of the joints, usually symmetrical. The erythrocyte sedimentation rate is usually elevated. There is apt to be considerable loss of weight, a hypochromic anemia and marked muscle wasting. The x-ray sooner or later shows erosions of cartilage and subchrondral bone, with generalized decalcification. While this paper deals exclusively with treatment, it is important to emphasize that the treatment outlined is designed only for bonafide rheumatoid arthritis. One is not justified in administering gold salts unless the diagnosis of rheumatoid arthritis is well established.

THE EXAMINATION

In order to treat properly the patient with rheumatoid arthritis, the examination must include the following essentials:

1. A complete medical survey.
2. An orthopedic survey especially from the point-of-view of body mechanics.
3. A specific search for foci of infection.

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4. A record of the amount of disability in each affected joint.
5. Laboratory data:
    a) Erythrocyte sedimentation rate.
    b) Complete blood count.
    c) Urinalysis
    d) Blood uric acid.
    e) X-rays of the joints most involved.
    f) Culture of synovial fluid when a specific infectious arthritis is suspected.

Not only must the joints be examined, but the patient must be viewed as an internal medical problem. She is suffering with what appears to be a chronic infectious disease. Anything that may be unearthed in the medical examination of the patient is important as a factor in her constitutional resistance. Thus we still search for foci of infection especially in the sinuses, tonsils and teeth, but are less optimistic than in the past as to the value of the treatment of these foci in rheumatoid arthritis. Foci of infection are treated with the idea of improving the patient's general health rather than on the assumption that thereby we are removing important causative factors. The blood uric acid must always be determined in order to help eliminate the atypical case of gout. The rest of the laboratory data is purely non-specific in nature; unfortunately there is no diagnostic blood manifestation in rheumatoid arthritis.

Treatment

Treatment falls into five categories.

1. Constitutional rehabilitation.
2. Gold salts therapy.
3. Transfusions of whole blood.
4. Prevention of deformities.
5. Treatment of deformities.

When the disease is active, it is important that all five forms of approach be instituted simultaneously. One is not justified, for example, in administering gold salts therapy without attention to the patient's general health problems. Likewise, in the long run it is futile to treat by complicated orthopedic procedures, the deformities already present, if the disease is allowed to continue without an attempt at inactivation by medical measures.

Constitutional Therapy

Constitutional therapy alone has in the past produced a certain percentage of arrests in rheumatoid arthritis. Certainly it is an essential part of any therapeutic program. There is space here for only the barest statement of general principles.

1. The treatment of any derangement found after a thorough internal medical survey. It is futile for example, to expect a good result from any form of treatment if the patient has an uncontrolled diabetes.
2. Rest. Both general (physical and emotional) and local. The axium that infection is an indication for rest holds true in rheumatoid arthritis. If there is fever, the patient must be put to bed. As long as the disease is active he must be encouraged to rest as much as possible. Emotional fatigue is likewise important. Local rest of severely affected joints with splints, braces or casts is often indicated.
3. Proper nutrition.
    a) Adequate teeth for chewing.
    b) A well balanced high vitamin diet. There is no specific diet for rheumatoid arthritis.
4. Proper gastrointestinal function.
    a) Hydrochloric acid when indicated, since hypochlorhydria is a common finding.
    b) Proper bowel elimination.
5. Iron by mouth for the hypochromic anemia.
6. Correction of postural defects, especially weak feet.

Gold Salts Therapy

The modern history of the use of gold salts in medicine probably started with the observations of Robert Koch, that gold cyanide in dilutions of one in two million inhibited the growth of tubercle bacilli in vitro. It was natural that following this observation, gold salts should be used therapeutically in experimental tuberculosis and subsequently in tuberculosis in human subjects. Eventually it became one of the standard treatments of discoid lupus erythematosus, apparently on the false assumption that this disorder was tubercular in origin. Its use in arthritis probably arose from the fact that some schools of European

TABLE I

GOLD SALTS IN COMMON USE

Gold Salt	*Percentage of Metallic Gold*	*Proprietary Name*	*Water Solubility*
Gold Sodium Thiosulphate*	37%	Sanocrysin	Yes
Gold Sodium Thiomalate	50%	Myocrisine	Yes
Gold ..... Thioglucose	50%	Solganol B	Yes
Gold Calcium Thiomalate	44.4%	.....	No
Gold Glyco Thioanilide	50%	Lauron	No

* Double salt.

thought entertained the theory that rheumatoid arthritis was also tubercular in origin. It was natural therefore for them to try the effect of gold salts therapy. The idea was popularized by Forestier whose first reports appeared in 1929.

The indications for gold salts therapy are only two, a positive clinical diagnosis of active rheumatoid arthritis and a duration of the disease longer than three months. One is not justified in using a form of treatment which has at times serious toxic repercussions, unless the disease is well established, and is not likely to clear up spontaneously. It is commonly observed that patients with acute infectious arthritis will spontaneously recover in 60 per cent of the cases during the first three months of illness. Until this period has elapsed, gold salts therapy should be withheld.

There are four contraindications for the use of gold salts therapy. It should never be used in that form of arthritis which appears to be rheumatoid in type, but is associated with lupus erythematosus disseminatus (in contradistinction to the discoid type when gold salts may be used). Its use in this syndrome is extremely dangerous. It also should be avoided where there is an associated acute rheumatic fever, with or without carditis. Likewise, renal impairment or blood dyscrasias should contradict its use.

The gold salts in common use today are listed in Table I together with the percentage of metallic gold in each compound, and whether or not it is soluble in water.

Only the first three listed are available for general use, the last two

being as yet available for experimental purposes only. Gold calcium thiomalate[1] (Merck) and gold glyco thioanilide (Endo) are insoluble in water and have been developed recently, on the assumption that this insolubility makes them less rapidly absorbed and less toxic in effect. This has proven to be the case in laboratory animals and a preliminary survey of our patients treated with these insoluble compounds appears to bear out this prediction.

All compounds are given intragluteally except the thiosulphate, which is usually given intravenously. The administration of gold salts, whether soluble or insoluble, calls for about the same dosage schedule. It has been found by most workers in the field that doses over 50 mgm. a week increase the rate and duration of toxic manifestations. A general summary of the method of administration is as follows:

Dosage Schedule:

1st dose	10 mgm. Gold Salts
2nd dose	25 mgm. Gold Salts
3rd dose	50 mgm. Gold Salts
Thereafter	50 mgm. Gold Salts

Interval Between Injections:

3 to 7 days

Total Dosage (one course):

1000 to 2000 mgm.

Interval Between Courses:

2 to 3 months

Total Courses:

1 to 3

The various factors will naturally be modified by the patient's individual response. If the first course of gold salts does not produce a satisfactory result, one is not justified in giving a second course. On the other hand if the first course results in a definite arrest of the disease, then one must insist on administering a second and even a third course in order to avoid a subsequent relapse.

One great drawback in the use of gold salts therapy is the frequent manifestation of toxicity or hypersensitivity. The reactions most commonly observed and in approximately the order of frequency, are as follows:

1. Pruritus
2. Dermatitis

TABLE II

URINARY EXCRETION OF GOLD FOLLOWING SUBCUTANEOUS INJECTIONS OF GOLD SODIUM THIOMALATE

Case	*Date*	*Administration of Gold Salt (Mgm.)*	*Volume 24 Hr. Urine Cc.*	*Urinary Excretion As Au In 24 Hr. (Mgm.)*
O. J., female, age 35 years.	March 14-15		1,125	0
	20-21		925	0
	21-22	5.0	840	0.38
	27-28		1,000	0.08
	28-29	10.0	935	0.15
	April 3-4		1,125	0.08
	4-5	25.0	780	0.30
	10-11		860	0.13
	11-12	25.0	810	0 42
	17-18		720	0.23
	18-19	25.0	1,060	0.44
	24-25		1,000	0.18
	25-26	25.0	770	0.28
	May 1-2		800	0.24
	2-3	25.0	700	0.75
	8-9		510	0.32
	9-10	25.0	600	0 40
M. W., female, age 38 years.	Dec. 20, 1939 to April 26, 1940		330	
	April 25-26		370	0.36
	26-27	25.0	300	0.51
	27-28			
	28-29		690	0.24
	29-30		880	0.25
	30-May 1		900	0.17
	May 1-2		750	0 35
	2-3		870	0 34
	3-4	25.0	1,250	0.24
	4-5		500	0.47
	5-6		250	0.42
	6-7		825	0.42
	7-8		800	0.36
	8-9		775	0.34
	9-10		560	0.24
	10	25.0		

3. Stomatitis
4. Renal irritation
5. Leukopenia
6. Thrombopenia without, or with purpura
8. Toxic hepatitis

There are other rarer toxic reactions not mentioned above. The in-

TABLE III

URINARY EXCRETION OF GOLD AFTER STOPPING THE ADMINISTRATION OF GOLD SODIUM THIOMALATE FROM 60 TO 300 DAYS

Case	*No. Days Since Last Dose*	*Last Dose (Mgm.)*	*Total Gold Salt Given*	*Volume 24 Hr. Urine Cc.*	*Urinary Gold Excretion (Mgm.)*
1	60	25	340	1,500	0.13
2	300	10	340	1,200	0.01
3	102	10	493 (Second Course)	1,000	0.16
4	90	30	575	840	0.16
5	210	25	200	530	0.04
	240	25	200	1,200	0.03
	270	25	200	1,675	0.00
6	135	50	1,100	1,400	0.09
7	100	30	410	860	0.10
8	98	50	1,005	1,370	0.17
9	90	10	85	1,650	0.08

cidence of toxic reactions of all types in one series of our cases using only gold sodium thiomalate, was 38 per cent. However, only in 10 per cent of the cases was the reaction serious enough to warrant stopping the therapy. We have observed only one death in well over 1000 cases treated with various gold compounds. The "toxic" reactions are probably in the main hypersensitivity reactions and not the result of direct parenchymatous damage.

In order to minimize the frequency of these reactions, certain precautions must always be observed. They may be listed as follows:

1. Before each injection:
    a) Question the patient as to itching of skin.
    b) Examine the skin for a rash or purpuric spots.
    c) Examine the mouth for stomatitis.
    d) Examine the urine for albumin and red blood cells.
2. Every two weeks:
    a) A white blood count and differential count.
    b) A hemoglobin determination.
3. Additional precautions in suspect subjects:
    a) Addis counts.
    b) Platelet counts.

TABLE IV

EFFECT OF CONTINUING ADMINISTRATION OF GOLD SODIUM THIOMALATE ON THE BACTERIOSTATIC POWER OF THE SERUM IN VITRO

Case No.	*Gold Salt (Mgm.)*	*Bacteriostasis (Col./Cc.)*
2	0	700,000*
	50	1,600,000
	115	5,000
	155	160
3	15	∞ 1:1,000 dil.
	119	10,150
	286	60
4	0	∞ 1:1,000 dil.
	60	21,000
	210	210
11	0	∞ 1:1,000 dil.
	85	10,000
	310	160
18	0	∞ 1:1,000 dil.
	115	17,800
	415	178

* Vaccines previously administered.

THE EXCRETION OF GOLD SALTS

It has been shown by us[2] and by others, notably Freyberg,[3] that injected gold is stored in the body, and excreted extremely slowly. The pathway of excretion is by way of the kidneys and intestinal tract. When soluble compounds of gold are administered, the excretion is mainly by way of the urine (Table II).

The reverse situation obtains in the case of the insoluble compounds for Freyberg[3] has shown that more is excreted through the stool than through the urine. The important fact to stress, however, is that the total excretion by both urine and stool during the time of administration is very much less than the actual amount injected. This stored gold is released at a more or less regular rate for a period which may extend over ten months or more after the last dose of a course of gold salts has been administered.[2] See Table III.

Mode of Action

The mechanism of action of gold salts is unknown. It was first thought that they acted by stimulating the reticulo-endothelial system or by stimulating the agglutinin content of the blood, but it has been shown by us[4] and others that no such phenomena can be demonstrated after the administration of gold salts. It can, however, be shown that the bacteriostatic powers of the serum are markedly increased following the administration of gold salts, when tested against ordinary laboratory organisms such as streptococci and pneumococci. See Table IV, where a beta hemolytic streptococcus was used.

Unfortunately, although rheumatoid arthritis is considered to be an infectious disease, we do not know the offending organism, and therefore cannot test the bacteriostatic powers of the serum of gold treated patients against organisms known to be causally related to rheumatoid arthritis. It is possible, but has not been proven therefore, that gold salts act through their direct bacteriostatic effect, when the gold content of the blood, which can be qauntitatively determined,[5] reaches an adequate level.

Results of Treatment with Gold Salts

In our series of 264 cases of rheumatoid arthritis treated with gold sodium thiomalate, a remission of the disease was observed in 54 per cent. Most of these received only gold salts therapy, transfusions and adequate constitutional therapy being omitted for economic and other reasons. All had the disease over six months, and most over one year. In those who responded satisfactorily, the favorable turn came about the eighth week of treatment. The sedimentation rate usually slowly returned to normal, the patient gained weight, the hemoglobin rose, and the joint manifestations resolved. Subsequent relapse occurred in about 21 per cent of these subjects, leaving 33 per cent completely arrested after a follow-up period of at least one year. When adequate constitutional therapy and transfusions supplement gold therapy, in situations where the hospital or home environment and economic status allow this, the permanent arrests are well over 50 per cent of the cases treated.

Similar results were obtained in other series treated with other compounds of gold. We cannot observe any important difference in the

therapeutic effectiveness of the various gold salts. We do feel, however, that the insoluble compounds are definitely less toxic. An analysis of our cases, not yet complete, appears to bear out this statement.

Transfusions

It has been observed that repeated transfusions preferably every seven days for ten or twelve weeks, have beneficial effects on rheumatoid arthritis patients, often to the point of initiating a remission of the disease. Exactly what mechanism is responsible for this is difficult to say. The transfusions may be beneficial due to the fact that they ameliorate the hypochromic anemia that is usually present, that they correct the disturbed albumin-globulin ratio commonly observed in severe cases, that they produce a form of non-specific protein shock reaction, and lastly passively transfer resistance to the recipients. The transfusions may be given when the patients are intolerant of gold salts, or during the course of the administration of these salts.

Treatment of Deformities

Space will not permit a thorough discussion of the methods by which we might prevent deformities in rheumatoid arthritis. The subject is of great importance, however. There is nothing more crippling than the flexion deformities observed in the weight-bearing joints, especially the knees, in rheumatoid arthritis. Most of these can be corrected during the first six months of deformity by the application of a series of plaster casts. These casts are preferably applied without forceful correction of the deformity. After two weeks a new cast is applied to take advantage of the correction thus obtained through muscle relaxation. Those deformities which have persisted over a year will usually not respond satisfactorily to anything but open operation.

The rehabilitation of arthritic derelicts is a field of orthopedic surgery, that has hardly been explored. It is surprising what can be done with careful planning and patience. We have recently seen a 38 year old woman return to a self-supporting job, after 15 years in a City hospital, after an arthrodesis of one knee and a posterior capsulotomy operation on the other.

Summary

A simultaneously applied program of constitutional rehabilitation,

gold salts, whole blood transfusions, and prevention and treatment of deformities, will produce satisfactory results in over half of the patients with rheumatoid arthritis. Gold salts are an essential part of this program, but it cannot be too strongly emphasized that gold salts are capable of producing serious toxic reactions and therefore must be administered with caution. When properly given, however, their good effects far outweigh the risk involved.

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CARDIOVASCULAR PROBLEMS IN THE WAR: HYPERTENSION AND THE NAVY*

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More than a year in active service at the National Naval Medical Center at Bethesda, Md., and a tour of war casualties at the U. S. Naval Hospitals at Oakland, Treasure Island, Mare Island and San Diego in December, 1942, have impressed me with the many important implications which hypertension has for the Navy. These implications often differ from those in civilian medical practice.

Officer candidates for the Navy, or even ordinary recruits, bring to the doctor an examinee who is far more tense than one generally sees in private practice. An officer receives an annual physical examination, one for promotion, one before proceeding out of the continental United States, or before assignment to a task force. The findings mean far more to the officer than to the man in civilian life. His whole future, his lifelong ambition is to make that promotion, to command or be in a task force. He appears tense and nervous far beyond the degree seen anywhere else. It is hard for him to relax and there is no doubt his blood pressure is unnaturally elevated and his heart rate increased. Borderline blood pressure candidates are examined and re-examined and sent from one internist to another. When finally a young aviation cadet comes to the cardiologist his arterial tension has climbed, keeping apace with his nervousness. In the present war when thousands are examined daily the situation just described is indeed frequent.

The Manual of the Medical Department of the U. S. Navy, Section 1490, states that a cause for rejection of applicants for enlistment is a "hypertension evidenced by a persistent systolic blood pressure above 150. In persons under 25 years of age, a persistent systolic pressure of or above 140 or a persistent diastolic pressure of 95 or over before or after exercise, is a cause for rejection." Section 1483 reads: "In considering the blood pressure, due regard must be given to the age of the

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applicant and to physiological causes, such as excitement, recent exercises, and digestion. The condition of the arteries, the tenseness of the pulse, and the degree of accentuation of the aortic second sound must be taken into consideration, as well as the relation between the systolic and diastolic pressure. No applicant will be rejected as a result of a single reading. When the blood pressure estimation at the first examination is regarded as abnormal, or in case of doubt, the procedure will be repeated twice daily (in the morning and in the afternoon) for a sufficient number of days to enable the Examiner to arrive at a definite conclusion."

Let us apply ourselves to actual cases. The first blood pressure reading of a young aviation cadet candidate was 170/90 but this finally dropped to 136/86. The cadet was accepted after tests showed his circulatory system to be normal. An officer candidate of 40 had a blood pressure of 180/98 but the lowest reading obtained after repeated examinations was 154/90. He was rejected, due consideration having been given to the duties he would have had to perform and his qualifications. Both candidates were of excellent physique. The young aviation candidate was accepted for the Navy, yet as clinicians we know he is an actual hypertensnve, a pre-hypertensive, or a potential hypertensive.[1-5] A patient possessing a definite hypertension at one time may present a normal blood pressure at another. He still has a hypertension. The blood pressure of hypertension patients are notoriously labile.[6,7,8] The insurance companies realize this and in fact are now reversing their former policy and taking into consideration high figures even if transient, for their statistics show that persons with transient high readings tend to become permanent hypertensives in later years.[6, 7, 8]

Further evidence that even a single borderline, or mild or moderately high blood pressure reading indicates the presence of hypertension was obtained by the writer who called back for re-examination fifty hospital patients 40 years of age and over because in their hospital stay, during routine examinations, only one blood pressure had been recorded. These were blood pressures only on the borderline of hypertension and the single readings were 152/80, 158/90, 150/80, 150/77, 150/85, 150/86, 150/90, 150/94, 152/90, 154/90, 152/88, 150/90, 150/80, 150/90, 150/86, 156/84, 150/90, 150/90, 155/80, 154/90, 150/88, 150/90, 150/88, 150/90, 140/90, etc. There was only a single reading for each patient, and it might be presumed that the reading was

TABLE I

HYPERTENSION BY AGE*

Age	140/90†	150/90	150/95	150/100
		Men		
40-49	33.6%	25.9%	16.9%	15.4%
50-59	49.2%	40.6%	32.8%	31.7%
60-69	66.5%	56.3%	51.0%	50.4%
		Women		
40-49	39.2%	32.0%	23.6%	22.7%
50-59	64.6%	53.4%	46.6%	45.5%
60-69	77.9%	67.7%	64.5%	64.0%

* Reproduced with permission from the *U. S. Nav. M. Bul.*, 1943, *41*:52.
† Cases are included if either the systolic or diastolic is within the specified limits.

particularly unreliable since a hospital is supposed to place the patient under emotional and mental stress. Yet on re-examination of these fifty patients, 1 to 7 years later, with many blood pressure readings on each patient, 76 per cent were found to possess definite hypertension, usually much higher than the single initial reading previously obtained in the hospital and at least one-fourth disclosed a diastolic blood pressure over 100. The following are the respective readings: 125/80, 160/90, 150/95, 128/90, 150/95, 185/105, 168/95, 158/105, 145/82, 158/108, 170/105, 140/80, 185/90, 198/112, 160/86, 137/75, 170/95, 128/82, 154/76, 155/95, 165/100, 178/105, 160/96, 168/94, 155/90.

From this discussion it is clear that there are many important approaches to the question of hypertension in wartime. Not only may athletes be turned away if one strictly adheres to military standards for hypertension but also it may be impossible to obtain the 10 to 15 million men who may be under arms by the end of 1943.

Some new figures on the actual incidence of hypertension in people over 40 have a further and direct bearing on hypertension in wartime.[9,10,11,12] The following table is based on the blood pressure readings obtained from 15,000 men and women (Table II).

It is seen that on the basis of a systolic blood pressure 150 mm. or over, and/or diastolic 90 or over, a little over one-fourth of the men

TABLE II

ESTIMATED INCIDENCE OF HYPERTENSION OF VARIOUS DEGREES AMONG WHITE PERSONS IN THE GENERAL POPULATION OVER AGE 40

*Degree of hypertension** (*in mm.*): *Age group* (*years*)	*Percentage* *Male-Female*
140/90 or over:	
40 and over	49.8 59.8
50 and over	59.9 72.5
60 and over	70.5 79.6
70 and over	77.3 82.2
150/90 or over:	
40 and over	40.9 50.7
50 and over	50.3 62.2
60 and over	59.8 70.2
70 and over	65.8 74.0

* Cases are included if either the systolic or diastolic is within the specified limits.

40 to 49 have hypertension; a little over two-fifths at 50 to 59 years; and considerably more than half at 60 to 69 years. Women have considerably higher figures. This is significant here because the Navy is accepting many women for certain types of service during the emergency.

Considering 140 and/or 90 or over, figures the insurance companies have shown to exert a definite effect on mortality rate, the incidence of hypertension is still higher. Just about one-third of the men between 40 and 49 years of age have hypertension, approximately one-half between 50 and 59, and two-thirds in the seventh decade! Again, women reveal a considerably higher frequency than men.

A study of these tables then reveals that hypertension is common in those over the age of forty. An even clearer exposition is presented when compilations based on the percentages in the tables just described and the distribution of the population[13] are made (Table II). It is then obvious that among men 40 years of age and over, the incidence of blood pressure 140 plus and/or 90 plus would be 50 per cent; 50 years and over, 60 per cent; 60 years and over, 70.5 per cent; for women the figures are 60 per cent, 72.5 per cent, and 80 per cent respectively. For blood pressure limits of 150 plus and/or 90, the proportions for men

would be, for 40 years of age and over, 41 per cent; 50 years of age and over, 50 per cent; 60 years of age and over, 60 per cent; and for women, 51 per cent, 62 per cent, and 70 per cent respectively.

In other words, in the population 40 years of age and over, hypertension, as I have defined it, is so common that it can no longer be considered abnormal. If, then, these limits, and probably a little higher limits, are not abnormal it may indicate that our standards in the military forces are too high. Should they be lowered? Yet I have just shown that blood pressures around these limits at these ages and in younger ages may mean definite hypertension in later life. Before I answer these questions I wish to point out that I am making no statements about morbidity or mortality. I do believe that a group of men with a blood pressure of 110 systolic will, in general, live longer than another group, no matter whether 17 or 57, with a systolic blood pressure of 150 or 170 mm. Hg.[14] Of course certain limits should always be considered abnormal, e. g., a diastolic of 110 or over (possibly 100 or over) and a systolic blood pressure of 200 or over (possibly even 190 or 180 mm. Hg.). The exact limits of "normal" blood pressure for the different ages is being worked out for us at the Statistical Bureau of the Metropolitan Life Insurance Company, New York City, by Mr. H. H. Marks.

To repeat, then, it appears that hypertension within the limits ordinarily accepted is so common that it may not be considered abnormal. On the other side of the picture is the observation on my tour in December 1942 of the U. S. Naval Hospitals at Oakland, Treasure Island, Mare Island, and San Diego, that among the "war casualties" were at least sixteen men between the ages 26 and 27 who came to my personal attention and who were being surveyed/or discharged with the diagnosis of arterial hypertension. Many broke down a few months after enlistment, one after only 29 days and another after only 2 months. The complaints were shortness of breath, dizziness, precordial pain and the blood pressures obtained were not infrequently high, for example: 156/110, 190/126, 180/86, 210/130, 178/114, 160/80, 160/104, 180/104, 170/104. Again and again the story was that of a borderline blood pressure reading on enlistment or re-enlistment. On the jacket of a 43 (P-S) year old man in the U. S. Naval Hospital at Oakland was this notation: "He had no knowledge of having an abnormal blood pressure until he tried to enlist in the U. S. Marine Corps Reserve at which time he finally passed this test after having to sit quietly in a chair for half an hour.

Three previous blood pressures that day had been unsatisfactory." He was finally taken in with a blood pressure of 150/90. His complaint was precordial pain on slight exertion.

At the U. S. Naval Hospital, Mare Island, a young Lieutenant (jg) age 34 (M.K.C.) was being surveyed for discharge after 5 months of active duty because his blood pressure was 190/126, yet he had been refused life insurance at the age of 19 because of elevated blood pressure!

A man of 26 (L.R.H.), at the U. S. Naval Hospital, Mare Island, California, after 4 months service complained of dizziness and shortness of breath on board ship. His blood pressure was 188/86. Investigation showed that he had been rechecked and rechecked for his blood pressure at enlistment and finally it was recorded as 140/78. It was found that 3 years prior to enlistment he had visited a physician because of dizziness, shortness of breath and blurring of vision. He, like the preceding men with hypertension, probably had definite organic cardiovascular disease.

A private in the U. S. Marine Corps (R.C.B.), 22 years of age, was being discharged at the U. S. Naval Hospital, Mare Island, only 4 months after enlistment, because of high blood pressure readings, 160/80, 150/85, and complaints of dizziness and shortness of breath. His story showed that 6 months prior to enlistment he had been rejected by the Navy because of high blood pressure, and on this hospital admission actual valvular heart disease was found, again revealing organic heart disease as well as hypertension.

Some of these men with hypertension broke down at training camps, or on board ship. A man (L.E.) 22 years of age broke down 29 days after enlistment when the work at the U. S. Naval Training Station at San Diego was too hard for him. On inquiry of his family physician, it was found that he had treated this apprentice seaman for 3 years because of hypertension.

R. W. B., 38 years of age, machinist mate second class, complained of headache and dizziness while on board a destroyer. His blood pressure was found to be over 200 mm. systolic. He was hospitalized at the U. S. Naval Hospital, Oakland, California, November 30, 1942, and blood pressures of 170-190 systolic and 120-130 diastolic were recorded. The electrocardiogram revealed evidence of myocardial involvement for the T-waves in leads I and IV were inverted. On the

hospital jacket was the interesting remark that at the time of enlistment the recruit had been examined and re-examined because of abnormally high blood pressure readings and finally "grudgingly accepted for enlistment August 21, 1942." It is thus a case in which high blood pressure readings came down to normal or borderline figures after rest and repeated examinations. Had he had a complete examination including fluoroscopy and electrocardiogram at the time of enlistment, I am confident evidence of organic heart disease would have been found. The very fact, too, that diastolic blood pressures as high as 120-130 mm. Hg. were obtained at the Oakland Hospital indicates that a considerable hypertension must have existed for many years before enlistment.

These histories could be multiplied. Whether they were young enlistees or men in their forties, recalled from retirement to take an active part in the war, the story was invariably of the difficulty of getting by on physical examination because of hypertension. Repeated examination at rest and zeal to get into the Navy were both factors in their final acceptance. It would seem that borderline blood pressure patients should be thoroughly examined for organic disease of the heart, blood vessels and kidneys, before they are accepted at all.

To recapitulate, there are so many arguments for and against accepting men in the Navy who possess borderline blood pressure readings that it would appear a difficult problem to settle. It has been shown that hypertension at the customary limits now accepted is common in certain ages which suggests that our standards may be too high at those ages. Again, we know that with slight or moderate hypertension a person is often of excellent physique, even athletic and would be valuable on task force duty for many years. Since the indication is, too, that millions of men and women will be required in the armed forces, our physical standards for enlistment must not be too high. Against these arguments for the acceptance of candidates for the Navy with borderline or slight hypertension are the facts that even a single hypertensive blood pressure reading may be significant of future hypertension, that many of these may already have cardiovascular disease and if accepted may become a burden to the government.

To clarify the issues and to summarize the arguments it seems clear that anyone with definite high blood pressure has no place in the Navy for general service and even a single diastolic reading beyond 100 to 110 mm. Hg. no matter what the subsequent readings, should disqualify

the man. Secondly, in every doubtful or borderline case a complete physical examination should be performed and if possible it should include x-ray film of the chest or fluoroscopy for heart size, electrocardiogram for myocardial involvement, standard exercise test and electrocardiogram after such exercise. The "2-step" is a good test for this purpose because the amount of exercise is graded according to age, weight and sex.[15-16] In other words, if there is any evidence of cardiac enlargement, myocardial involvement or coronary insufficiency, the patient should not be accepted. Incidentally, an examination of the fundus vessels should be routine.

Thirdly, it is suggested that condidates whose blood pressures are of the borderline type described be accepted in both the Regular Navy and the Reserve under waiver in time of emergency provided a law is enacted by the Congress that no compensation or pension be paid to such a person because of the appearance of a definite hypertension or an increase in blood pressure during such service. It is advisable that Congress do this immediately so that the Navy may obtain an adequate number of desirable men and to spare the government hundreds of millions of dollars in pensions for a condition which becomes apparent or progressive with age and which is not due to war service.*

The Navy should still exercise the right, during peace and war, to set its own limits. That the Navy has been wise to be strict in peace time can be confirmed by the fact that during a special examination of Naval officers between the ages of 58 and 64 in August 1942, the incidence of so-called borderline hypertension or actual hypertension was considerably less than in the general population.

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* Public Law 816 was approved December 18, 1942. In this law Congress acted in regard to rights to retirement for physical disabilities waived for appointment as an officer.

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RUSSIAN PSYCHIATRY—ITS HISTORICAL AND IDEOLOGICAL BACKGROUND*

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THE history of Russian culture cannot easily be understood unless one bears constantly in mind the special circumstances of its evolution. Russia is an old country, of course; she is rich in tradition and great events. But unlike the rest of Europe, she was never in intimate historical contact with the classical civilization of Greece and Rome, and the Byzantine influences came late and were more or less limited to the religious trends of the Eastern Church. Whatever streams of classical inheritance there were in Russia came via Western Europe, after Europe had already gone through the Middle Ages and the Renaissance and was approaching the French Revolution. Russia remained isolated for many centuries. When Ivan III, in 1480, threw off the yoke of the Mongolians who had overrun Russia, Europe was already at the great turn from medievalism to the Renaissance. When Rodrigo Borgia ascended the throne of St. Peter in 1492, the year America was discovered, Russia was still almost as isolated as China and had nothing to contribute to the Western World. Nor did she yet possess the curiosity and impulse to acquire and assimilate what Europe had to offer. When Galileo died and Newton was born in 1642, Francis Bacon had been dead for sixteen years and Shakespeare for twenty-six, but Russia was still deeply rooted in her own semi-Byzantine tradition, without a literature of her own, torn by civil strife, steeped in problems which were far from the scientific, artistic, and religious revolutions of Europe. Russia did not establish any definite cultural contact with Western Europe until the eighteenth century. The French Revolution was already in the making and a new economic class was about to enter the political scene of Europe; Russia was at the time still a vast feudal country with millions of serfs, an autocratic governing class, no middle class, and almost no industry.

The cultural contact with the Western World once established,

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Russia proved a capable and original pupil. Within one century, or not very much more than that, she not only became a legitimate member of the European cultural family but succeeded in making great contributions to that culture. Dostoyevsky, Tolstoy, and Tschaikovsky belong to the whole world as well as to Russia; the work of Mendelyeev in chemistry, Bechterev in neurology, and Korsakov in psychiatry became an integral part of European science; as early as 1818 Lobachevsky's contributions testified to the maturity of Russian mathematical scholarship and its revolutionary approach to the revision of Euclidian geometry. Now, some one hundred and fifty years after the French Revolution, hardly a century and one-half after Russia joined the Western World, Russia stands politically, economically, and scientifically a full equal and in many respects a superior to the old Western European tradition. Such phenomenal assimilation of centuries of European culture could not help but produce certain unique paradoxes.

Through the channels of institutional religion, England, the oldest parliamentary country in the world, found herself on rather intimate terms with Imperial Russia, the oldest and the most absolute autocracy in Europe until 1917. For generations the Bishop of Canterbury felt spiritually at home in the Holy Synod of the Russian Church Orthodoxy. The Russian liberal, academic intellectuals espoused the cause of constitutional, parliamentary government in the English tradition, while Russian imperial policy stood out as the logical enemy of British imperialism.

The revolutionary forces of Russia, coming from the lower economic strata, espoused the most advanced European economic theories, those of Marxism; these theories were based on problems which arose in the most industrialized countries of Europe, while Russia remained primarily agrarian and almost feudal to the very last day of the Empire. The cultural varnish of the upper classes became French; the industrial trends were taken mostly from Germany and only recently from America; the scientific methodology was as much German as it was French. Philosophy and literature and music remained singularly Russian. In short, the picture of Russian culture is truly kaleidoscopic. The history of Russian medicine, and particularly of psychiatry, reflects both the meteoric rise of Russian science and those especially Russian peculiarities which were not lost in the process of rapid assimilation of foreign importations.

These Russian peculiarities could be summarized very briefly; any aspect of Russian cultural efforts is permeated with the spirit of high humanitarian social aspirations for reform combined with a spirit of revolutionary struggle against the bureaucracy and the autocratic cruelty and stupidity of Russian political and economic absolutism. It is this social motif that reverberates through every step of Russian medical history. This is no less true of psychiatry, the youngest of all medical specialties, one not yet wholeheartedly accepted even by the medicine of the Western World. Psychiatry has its own history, and because psychological problems are more intimately connected with the development of religions and philosophy, psychiatry was delayed and almost stunted in its growth all over the world. It first languished outside medicine and later lagged behind it. Only within our time has psychiatry established itself as a legitimate branch of medicine and as a discipline which has succeeded in building its own methodological foundation and in developing its own scientific procedure. Russian psychiatry, while no exception in this respect, had a longer and more arduous road to cover.

There was no inkling of psychiatry in Russia till the latter part of the eighteenth century. The first retreat for the mentally ill in St. Petersburg was opened as late as 1779. France at that time already had a detailed classification of mental diseases produced by Boissier de Sauvages. Young Philippe Pinel, who was to revolutionize the care of the mentally ill, was already in Paris. Mesmer was known in Paris as well as in Vienna. How small and insignificant the retreat in St. Petersburg was one may deduce from the fact that five years after its opening it had but thirty-two rooms; in another five years—in the year the first shot of the French Revolution was fired—the number of rooms was increased to forty, ten of which were reserved for more affluent patients. By way of contrast, let us recall that there was a hospital for the mentally ill in Cairo five hundred years earlier. There was one in Valencia at the beginning of the fourteenth century. There was one in Saragossa around 1425, in Toledo in 1483, in Madrid in 1540, in Stockholm in 1551, and in Zürich in 1570. Bedlam was already an ancient institution in 1779. The York Lunatic Asylum was opened in 1777—it was three stories high and accommodated one hundred and eighty patients.

There were many mentally ill in Russia, of course. They wandered about in the streets and in the woods and some of them were taken

care of by the monasteries. But in one respect, Russia stands out as a happy exception in the otherwise gruesome history of psychiatry the world over. The European tradition of burning the mentally ill as witches did not develop independently in Russia, nor was it imported into Russia from Western Europe. Not being influenced by the Roman Catholic Church, Russian Church Orthodoxy, which has such a bloody and dark record in the political history of Russia, did not couple mental disease with Lucifer and produced no special theological psychiatry, nor did it have an Inquisition to raise the heated quarrels with the medical profession. The idea, if not the concept, that mental diseases are real diseases seems to have been established toward the beginning of the eighteenth century in Russia.

The following incident occurred in 1701. A psychotic by the name of Nikonov wandered among some guards who were on duty and told them the Tsar should be cursed because he had introduced into the Moscovite Tsardom such innovations as "German" stockings and shoes. Nikonov was arrested. An investigation was started but the offender could not be examined properly: "He screamed and threw himself about and used unintelligible words and spat on the image of the Holy Virgin. He was chained and held to a heavy trunk by three soldiers, but he broke away, fell to the floor, and snorted loudly for a long time; while doing so he fell asleep. The investigators concluded that the man was crazy and suffered from falling sickness." No mention was made in the report of any attending physician. On April 28, 1701, the Tsar himself issued a ukase to the effect that the miscreant be sent to a monastery for a month's observation in order to establish "what sickness and craze he may reveal." A month later the monastery reported that "no sickness or craze was found, that the man spoke no foolish words, and that he was on the whole in possession of his mind and reason." Thereupon the Tsar ordered that Nikonov, "in consequence of his misdemeanor and indecent language, be punished with a whip, then branded, and exiled to Siberia for life with his wife and children."[1]

Peter the Great evidently understood the medicopsychological inadequacy of monasteries, and as early as 1723 he formally forbade sending the mentally ill to monasteries and ordered the construction of mental hospitals. But even the power of a despotic Tsar cannot overcome the inertia of his own bureaucracy or that of a historical tradition. Nothing

[1] U. Kannabich, *History of Psychiatry* (in Russian). State Publishing House, 1928.

was done. Almost forty years later, in 1762, the Senate ordered specifically that the psychotic prince Kozlovski "should not be sent to a monastery but to a special house which is to be built for this purpose, as is the custom in foreign lands, where they have established dollhouses—so be it."[2]

The origin of the term "dollhouse" is not clear. It is used frequently in the Russian psychiatric literature of the eighteenth and of the first part of the nineteenth century. It is apparently a perversion of the German *Tollhaus*, house for the insane.

There was no Russian physician at that time who could advise how to build a "dollhouse" in accordance with "the custom in foreign lands." The Senate inquired of the Academy of Sciences and a historiographer by the name of Muler provided the authorities with a brief description of what a "dollhouse" should be and what kinds of insane people there are. He recommended that a doctor be put in charge of such a house, and he stated definitely that the business of treating the mentally ill should be left in the hands of the physician. The priest, he said, had nothing to do with insane people until they come to their senses and regain their reason.

However, some years passed before finally the "yellow house," as they began to be called, opened. In 1766 an order was issued in St. Petersburg demanding that anyone who knew of or gave refuge to a mentally ill person should report the latter to the police. The police were very soon overwhelmed with reports. In 1776 a small "yellow house" was opened in Novgorod, and another in Moscow. As has been mentioned already, the capital of Russia did not have one until 1779. All were founded in the close neighborhood of monasteries and most even carried the names of the latter.

From this time on a series of hospitals opened all over Russia. In 1814 they were put under the supervision of a department of the Ministry of the Interior. By 1860 there were forty-three hospitals for the mentally ill in Russia—all small, all inadequately run, and all governed in the tradition of cruelty. The cautery, whips, chains, so-called "isolators"—more or less Russian editions of the European padded cells—were all used freely in the management of patients. In 1820 the Moscow "dollhouse" had twenty-five sets of chains for one hundred and thirteen patients.

[2] *Ibid.*

II

The years during and following the Napoleonic Wars brought Russia closer to European political thought and European scholarship. But the brief honeymoon of the sentimental liberalism of Alexander I ended in disappointment for those whose liberal hopes outlived the youthful impulses of the Russian Emperor. The Decembrist rebellion in 1825 ended with the complete triumph of autocracy. The reign of Nicholas I started with blood and continued in an atmosphere of darkest reaction. In the meantime, Russian economic life underwent the gradual but definite change which had characterized Europe two full generations earlier. A commercial and industrial class developed which was unable to make peace with the selfish, autocratic rule of Tsardom or to support the ruinous tradition of serfdom on which the ruling classes of the Russian Empire had fattened. The opposition of the newly born class served only to intensify the iron rule of autocracy. The country's needs grew; problems of public health, of building new hospitals, of caring for the mentally ill were all concentrated in the hands of a dull, complacent, and self-contained bureaucracy to which a well-organized secret police system was of greater value than measures of social welfare. Under the circumstances, psychiatry did not have the necessary opportunity to develop. Mental patients were not only treated with cruelty but even their most elementary needs were not provided for. They were fed atrociously, meat being served at only rare intervals; laundry was not provided; filth, hunger, and cruelty summarize briefly but poignantly the status of the mentally ill. In the words of a contemporary writer, the mental hospitals were "a branch of Dante's *Inferno*."

However, the fermentation of newer forces in Russia, once started, would not stop. Russian autocracy was forced to abolish serfdom in 1861, and by 1867 Russian bureaucracy had to yield a little more ground. It transferred the supervision of mental hospitals to the "zemstvos"—the semi-official, civic organizations which represented the major strivings of the new "third estate" for rational public welfare. Permission was given to the zemstvos and even to certain municipalities to build new hospitals. The need for physicians and surgeons was acute; greater still was the need for physicians trained in psychiatry.

The early 'sixties of the past century marked the true beginnings of

Russian psychiatry. In 1862 the short-lived "Society of Physicians for the Insane" was organized. This was the parent of the Petersburg Society of Psychiatrists, which was founded in 1880. How slowly psychiatry grew in Russia may be judged from the fact that out of the four hundred and forty physicians who attended the first all-Russian psychiatric meeting at Moscow, in January 1887, there were only eighty-six who specialized in the study and treatment of mental diseases. The very small number of psychiatrists was due not to the lack of interest. This interest was very great indeed, but there were no well-organized institutions where one could learn clinical psychiatry, nor was psychiatry taught in the medical schools.

It is easily seen that Russian psychiatry is hardly three-quarters of a century old, and that it began in an atmosphere of political strife, bureaucratic inefficiency, cultural darkness, and economic misery. The fact that within the short period of seventy to seventy-five years Russian neurology and psychiatry caught up with Europe and contributed to the world such men as Merjeyevski, Korsakov, Bechterev, and Pavlov testifies to the uniquely untiring and creative activity of Russian medical science, which found itself capable of overcoming the immense obstacles which the bleak autocratic regime, wars, and revolutions continually raised in its path.

The particular political and economic circumstances in which Russian psychiatry had to develop also determined its major trends. It was inspired with the ideal of building as many mental hospitals as possible, and of abolishing all forms of restraint. The nonrestraint movement inaugurated in England by Hill, Charlesworth, and Conolly, and associated primarily with the name of the latter, was a source of major inspiration to the Russians. The vicissitudes of this movement within Russia symbolized to a great extent the struggle for freedom which kept the country in a constant state of revolutionary fermentation till the end of the last War.

Next to nonrestraint and the creation of new hospitals, it was the education of the psychiatrist that stood in the foreground as a major problem. As to the scientific orientation of psychiatry, unlike Russia's literature and art or even some aspects of her political philosophy, it took a strictly materialistic turn rather narrowly conceived as neurobiological. The new contact with scientific Europe fascinated the Russian scholar, who sensed in it the rationalism and freedom of thought which

he craved so much and which stood in such contradiction to the superstitious and bigoted tradition inculcated into Russian life by Russian Church Orthodoxy and the political autocracy which used the latter as its tool. Biological materialsm was in great vogue in the 'sixties. The most popular book was Büchner's *Stoff und Kraft*, which became a sort of guidebook and passport for scientific respectability. Turgeniev described this trend beautifully in his *Fathers and Sons*. His Bazarov, the young physician who finally died of septicemia contracted at an autopsy, was typical of the time. He treated the idealistic fathers who still enjoyed playing 'cello music with a cold sneer and reproach. There was work to be done, there were things to be learned, there was a service to be rendered to the community, and all this musical sentimentality and leisurely romanticism had to be shed with scorn and determination. Since frogs were experimental animals, they were more valuable and therefore more important than a Beethoven. Even in his terminal delirium, Bazarov was preoccupied with dogs and not with mystical hallucinations.

Russian psychiatry, born at that period, established itself on a purely somatic and neurological basis. The first Russian professor of psychiatry was the pioneer, Balinsky. Balinsky graduated in medicine in 1856 and started specializing in pediatrics, which he soon abandoned. He went abroad to study and returned in 1867, in the same year the mental hospitals were turned over to the zemstvos. He took charge of the frightful psychiatric division of the Military Medical Academy, devoted himself to its reorganization, and made it a real hospital. He gave an immense amount of energy to the supervision of various projects for new mental hospitals all over European Russia. Balinsky was so busy with problems of psychiatric organization that he never had time to make any written contribution to psychiatry, and he always regretted it. Though he had no time for scientific research, he was an excellent, intuitive clinician. His influence as an inspired and inspiring teacher was incalculable.

Balinsky's somewhat younger contemporary and pupil, Merjeyevski, succeeded him as professor in 1877. Merjeyevski, rightly recognized as the father and dean of Russian psychiatry, was a great teacher and organizer. He trained more than fifty psychiatrists, eleven of whom taught psychiatry and occupied chairs of neurology and psychiatry. Twenty-six doctor's theses dealing with psychiatric subjects and one hundred and fifty scientific papers were written and published under his direction.

But unlike his predecessor Balinsky, Merjeyevski found time not only for teaching and organization but also for scientific research. He was in contact with European psychiatrists, particularly the French. His first study dealt with microcephalics; in this he tried to refute the new Darwinian hypothesis represented by Fogt which suggested that the brains of microcephalic individuals are related to those of anthropoid apes. Merjeyevski advanced the very keen and fruitful suggestion that the microcephalic brain was embryonic in nature. In 1872, jointly with Magnan, he made a study on the brain ventricles in general paralysis. In 1874, at the International Congress at Norwich, Merjeyevski described independently the giant pyramidal cells which became known as the cells of Betz, who was also a Russian neurologist, from Kiev. Merjeyevski was president of the first Congress of Russian Psychiatrists in 1887 and held the chair of psychiatry until 1893. He was the founder of a tradition which later became known as the Petrograd School and, since the Revolution, as the Leningrad School of Psychiatry. This school was later headed by V. M. Bechterev (1857-1927), who also became the occupant of Merjeyevski's chair of psychiatry in the Military Medical Academy.

In a brief review such as the present one, it is impossible to do justice to the many important features of Russian psychiatric history or even to mention all its worthy representatives. P. I. Kovaevsky was the first to establish psychiatry in the south of Russia, in the University of Kharkov. Bechterev established it in the University of Kazan, and Kojevnikov in Moscow. The University of Dorpat, being directly under the cultural influence of Germany, as was all the Baltic region of Russia, was led by German professors. Emminghaus, from Freiburg, occupied the chair of psychiatry at Dorpat from 1880 to 1886, and for four years, from 1886 to 1890, Kraepelin was the incumbent. Yet on the whole Russian psychiatry was more under the influence of French than of German psychiatry. Even in later years, when the influence of Kraepelin's nosology spread all over the world, there was opposition to Kraepelin in Russia. Serbsky, the successor of Korsakov in Moscow, was not alone in objecting to Kraepelin's suggestion that the major psychoses should be diagnosed on the basis of their ultimate outcome, on the basis of what would happen to a given patient in the future. When Kraepelin claimed that dementia praecox could be recognized by the fact that it usually ends in mental deterioration, he himself ad-

mitted that about thirteen per cent of dementia praecox patients do recover. Serbsky is said to have observed, not without caustic wonderment, "Those patients, then, are dementias which do not end in dementias?" He considered the Kraepelinian diagnostic suggestions not a little puzzling.

It was French psychiatry with its succinct logic and clarity of description that seemed to appeal more to the Russian psychiatrists. They stood closer to Morel, Magnan, Charcot, and Janet. That Merjeyevski published a joint paper with Magnan has been mentioned. Korsakov's meticulous neuropsychiatry was certainly reminiscent of the methods of Magnan and Charcot, and Bechterev's work was definitely in the tradition of Charcot and Pierre Janet.

III

By 1893, when Merjeyevski retired from active work, Russian psychiatry had established itself as far as its clinical and scientific methodology was concerned; it had also become a specialty, and it was represented by a number of well-trained and brilliant men. While Merjeyevski was laying the foundation of the Petersburg School, Moscow was developing more or less independently. The Moscow School is closely identified with the name of S. S. Korsakov.

Korsakov was born in 1854. He was not seventeen years old when he entered the Medical School of the University of Moscow. At the age of twenty-one he was already a member of the staff of the Préobrajensky Hospital in Moscow, and soon afterwards he became assistant to Kojevnikov, the pioneer of Moscow psychiatry. There was no really well-organized mental hospital in Moscow, nor was there any separate chair of psychiatry. Kojevnikov started giving a theoretical course in mental disease in 1863. Theretofore neurology and psychiatry had been a part of general pathology.

Not until 1887 was a good psychiatric clinic opened in Moscow. This clinic was built with the money donated by a private citizen (V. A. Morozova) in 1882. Kojevnikov was its first director, Korsakov was its factual head. How exiguous was the equipment offered at that time to a young physician interested in psychiatry one could judge from Korsakov's own reminiscences. "When I finished my medical course," he relates, "I came to the Préobrajensky Hospital in Moscow to apply for a job as physician. The physician-in-chief, a psychiatrist who en-

joyed a well-deserved good reputation, said to me: 'You were taught very little psychiatry in medical school, were you not? I am sure you don't even know how to tie down an insane person.' My first lesson was that of tying down. It is difficult to believe this—yet it all happened so very recently."[3]

Korsakov devoted himself to the liberation of the mentally ill; to the abolition of all measures of restraint, to the organization of the colony method of management. Through his efforts the "isolators" were abolished in 1895 and transformed into apartments for young physicians or chemical laboratories. His ideal of a mental hospital was one made up of a series of homelike, small houses in which patients were treated as sick people, as human beings. He achieved a great part of his ideal in a small colony for the mentally ill near Moscow. It was a gigantic task to which Korsakov devoted his inspiration and energy. His pupil Serbsky called this achievement "Korsakov's scientific work which was never published anywhere."

In accordance with the tradition of Russian psychiatry, Korsakov's efforts were organizational and humanistic, but he found time for intensive clinical research. He left a complete and rather voluminous classification of mental diseases which demonstrates great powers of observation and rich clinical experience. While he was interested in all aspects of psychiatry, Korsakov's chief interests were concentrated on the neuropsychiatric aspects of alcoholism. The choice of this interest was not accidental. Russia offered unusual opportunities for the study of alcoholism. The Tsarist regime was one of the major factors in the development of alcoholism, for alcohol was a monopoly of the state, under the direction of the Ministry of Finance. The Tsarist treasury was regularly replenished at the expense of the population, which was given a liberal opportunity to develop alcoholic addiction. The stores selling vodka were known in Russia not as saloons, but as "monopolkas." The workingman would enter the government store, would buy a bottle of vodka duly sealed with the government sealing wax, uncork it in the street at the door of the monopolka, and drink it straight without food or chaser. Alcoholism in Tsarist Russia was as typical and chronic a disease as was Tsardom itself.

Heavy drinking was so much a part of Russian life that it is reflected in a legend, probably apocryphal, about the adoption of the Greek

[3] *Ibid.*

Orthodox Christian faith by Russia. It was Prince Vladimir, later canonized by the Russian Church, who decided to espouse one of the monotheistic religions. He invited representatives of all existing religions; the Catholics, the Mohammedans, the Jews, and the Greek Orthodox sent delegates to bid Vladimir join their respective churches. Vladimir rejected the Catholics because a Russian prince, he averred, would pay no obeisance to anyone, even to the Prince of the Church. The Jews Vladimir rejected because their religion forbade eating pork. This was in the middle of the ninth century, and Russia was mostly what now is the Ukraine; the population raised a number of pigs, and Vladimir's rejection of the Mosaic religion seems to have been dictated by prudent economic considerations. The Mohammedans had even less to offer; on hearing that Mohammed forbade the use of intoxicating liquor, Vladimir is supposed to have become more explicit. "Russia," he claimed, "lives on the joy of drinking and cannot live without it." This reduced his choice to the Greek Orthodox Church, the tenets of which he accepted by mass baptism in 862. From that year on the Russian Tsars were devout rulers, ruling Russia and the obsequious church, which was an obedient servant of Tsardom and helpful in promulgating the theory of "the joy of drinking without which Russia could not live."

A little over one thousand years after the official consecration of Russian alcoholism, Korsakov made a studious examination of the clinical consequences of this legendary choice. It was at the first Congress of Russian Psychiatrists, which opened in Moscow on January 5, 1887, that Korsakov presented his first studies. The president of the Congress, Merjeyevski, reflected in his opening address the deep concern of Russian psychiatry—a concern which found its practical and creative expression only after the Soviet Revolution. The topic of the address was "The conditions which are conducive to the development of mental diseases in Russia, and the measures necessary for their prevention." Korsakov read two papers, one on the care of the mentally sick in private homes and the other on nonrestraint. Thus we may see that the sociological orientation of Russian psychiatry and its civic conscience came to full expression at that early date.

In the very same year, Korsakov submitted his thesis "On Alcoholic Paralysis." Two years later he published a paper entitled, "Some cases of a singular cerebropathy combined with polyneuritis." He worked out in detail not only the neurological picture of the alcoholic psychosis,

but also the psychological one—the typical memory disturbances, the characteristic, retrospective pseudologias and fabrications.

Korsakov was a quiet, unassuming, modest worker; he even gave the impression of being insecure. His was the true attitude of a scientist in whom modesty and greatness were perfectly integrated. At the International Congress of Medicine in Paris, in 1900, Professor M. Ritti, speaking in memory of Korsakov, recalled: "It was at the International Congress in 1889. I remember vividly how Korsakov came over to me modestly, almost timidly; his characteristic face reflected a vital, keen mind, goodness and endless gentleness. His was the nature of an apostle and of a scientist. He had in his hands a manuscript and asked my permission to present it; it was not scheduled on the program. I was glad to give him permission. You all know the monumental contribution which this happened to be, a contribution which opened a new era in our science. It was entitled simply: 'A form of mental disease which is combined with degenerative polyneuritis.' The paper was received with warmest applause. The great scientist who presided over that meeting was Professor Benedict of Vienna. This man of vast knowledge and incontestable competence evaluated that highly original paper with the following words: 'We thank Doctor Korsakov for his interesting paper. He has confirmed to the highest degree the theory that all psychopathology can be reduced to lesions of the brain and nerve-tissue in general.' "

As we know now, Benedict's hopes were too expansive, although they are still cherished by many today. Benedict's at the time more obscure colleague and compatriot, Sigmund Freud, was already back from Paris where he had worked with Charcot, and together with Joseph Breuer he was initiating an even greater revolution in psychopathology than was Korsakov's in the consideration of alcoholic reactions. This is noted, not to deter from the greatness of Korsakov, but rather to emphasize the fact that while European psychiatry was studying hysteria, revealing a new insight into neuroses, and preparing a new theory of psychopathology, Russian psychiatry seemed in a strange way to neglect the whole field of neuroses and to concentrate on the neuropathological conditions which were brought into focus by the special social and cultural circumstances in which Russia lived.

At the International Congress of Medicine held in Moscow in 1897, the Berlin neurologist Jolly proposed that the alcoholic psychosis de-

scribed by Korsakov be called the Korsakov Psychosis, which is the official term used in all psychiatric classifications today.

Korsakov's career left an indelible imprint on the history of Russian psychiatry, and the period in which he lived and wrote is known as the "era of Korsakov." Korsakov died on May first, 1900, closing less than half a century of exceptionally eventful psychiatric history.

IV

The twentieth century opened rather inauspiciously. The Russo-Japanese War, the tempestuous revolutionary upheavals, the famines and the persecutions on the part of the Tsarist regime hampered Russian culture and Russian science, disturbed and disrupted Russian life, till finally the structure of Tsarist Russia crumbled, as one day it had to, in March and November, 1917.

The special conditions of Russian political and social history only enhanced the scientific and cultural orientation of Russian psychiatry. As everywhere else in Europe throughout the nineteenth century, psychiatry was not psychological but administrative, custodial, descriptive, and neurological. The deep-seated human psychological conflicts, the inner tragedies of man's relation to himself and to the outside world, were still as if by general, silent consent considered as belonging more to literature than to psychiatry. The psychological aspects of psychiatry were left in Russia to Dostoyevsky as much as they were left in France to Hugo, Dumas the younger, Maupassant, and Proust, or in Sweden to Strindberg, or in Norway to Hamsun. The old, mistaken view that psychiatry, in order to be scientific, must be objective—that is, must leave the subjective states, the ideational content, out of consideration in favor of their neurophysiological equivalents—prevailed in Russia perhaps to a greater degree than in the rest of Europe. The term "neuropsychiatry," which is more or less new in English speaking countries, is an old term in Russia.

The twentieth century is marked by the development of what has become known as *objective psychology*, or *reflexology*. These terms were introduced by Bechterev. The history of this period is too recent, and a proper historical evaluation of it is not yet timely. Suffice it to say that already there are signs of considerable distortion of the historical perspective regarding the recent trends of Russian psychiatry, and an attempt to correct this distortion may not be out of place.

The reflexological ideas in psychiatry are not very recent. Almost one hundred years ago Griesinger spoke of "the reflexes of the brain," and in 1863 the Russian neurologist Syechenov published a monumental work entitled, *The Reflexes of the Brain.* The work of I. P. Pavlov was purely physiological, and for a long time Pavlov failed to deal with the possible psychological implications of his experiments. He never actually worked on human beings, and he never subjected the variety of emotional subjective states of human beings to experimental evaluation. Having been a direct witness of this page of Russian psychiatric history, I may be permitted to testify that the first reflexological experiments on human beings were made by Bechterev in the Psycho-Neurological Institute in Petrograd as early as 1912, and at that time Bechterev was already giving a course on "Objective Psychology or Reflexology." His *Objective Psychology,* in three volumes, was published between 1907 and 1912 and was translated into French and German. His *Foundation of Reflexology of Man* was published in 1918, and his *Collective Reflexology* in 1921. All these contributions were for some reason overlooked both in America and in England.

Pavlov's great contribution to the subject of conditioned reflexes remained outside medical psychology, and the recent theoretical constructions of what has become prematurely known as Pavlov's School do not go beyond a general neurophysiological theory. The so-called "experimental neuroses" in animals do not offer any conclusive results, in so far as the behavior of these "neurotic" animals is interpreted by the experimenter on the basis of his subjective impressions only. There is no proof that the animals actually labor under the stress of a psychological conflict. On the other hand, the method of Bechterev, while still more related to behaviorism than to true analytical psychology, nevertheless deals directly with human beings and therefore represents actual psychiatric work.

The last twenty-five years, the most interesting and valuable in the history of Russian medicine, mark more poignantly than ever before the sociological and neurophysiological orientation of Russian psychiatry. Since the Soviet Revolution, psychiatry has become a branch of public health when it is not a field of laboratory research. What is known here as "mental hygiene" has become the chief field of Russian psychiatric endeavor. Numerous clinics in municipalities and in industrial centers have been opened, and the whole working population is

brought into the orbit of psychological supervision and educational efforts. Psychiatry, to use the words of the great leader of Soviet psychiatry, L. M. Rosenstein, has become a system for "the protection of neuropsychic health." Sanatoria for borderline cases and for neuroses have been organized. These are psychotherapeutic and physicotherapeutic centers. Social hygiene and prophylaxis are the guiding principles.

The accent is on purely cultural factors. As the Russian historian of psychiatry, Kannabich, summarizes it briefly, "The study of the cultural conditions and of the influence of environment, the concentration of special attention on the role of social factors and psychogenic moments, leads more and more to the rejection of the endogenous and to the increasing acceptance of the exogenous forms" in the consideration of psychopathological reactions.

LIMITATIONS OF PSYCHOANALYTIC TREATMENT*

HERMAN NUNBERG

No one expects that all patients who are treated by physicians are to be completely cured. A complete restoration to normalcy, however, seems to be expected from psychoanalysis.

What is psychic normalcy? Is it not a relative notion dependent on many factors? One patient may well be satisfied with the results of his analytic treatment while his family and his friends may be dissatisfied. Another patient may be dissatisfied, whereas his family and his friends may praise the results of his treatment.

A patient suffering from an incurable chronic organic disease is happy when he is sufficiently improved to carry on his work. The same applies to some psychoneurotics whose health has improved without complete recovery. Curiously enough, different standards are applied to the therapeutic results of the analyst than to those of other physicians. This, perhaps, is partly explained by the fact that for the outsider it is not so easy to determine whether a cure was successful or not. There occur, no doubt, failures in analyses and there is no reason why this should not be admitted. In order to promote a better understanding between analyst and non-analyst, I believe it advisable to discuss, though only superficially, the determining factors for some failures of psychoanalytic treatment.

I cannot fully discuss, in this presentation, the clinical indications and prognosis of the psychoanalytic treatment. Not only the non-analyst cannot decide whether a patient is suitable for analysis but also the analyst frequently has to postpone judgment until several months of analysis have elapsed. I would, therefore, prefer to discuss the difficulties from the analyst's viewpoint; in a sense, I would like to invite you to look into the analytic workshop.

All psychoneurotics suffer from an inner conflict. Hence the first

* Paper read before the combined meeting of the Section of Neurology and Psychiatry of The New York Academy of Medicine and the New York Neurological Society, November 10th, 1942.

task of the treatment seems to be to relieve the patient of this conflict. Simple as this may seem, yet it is not so easily fulfilled. We cannot solve all conflicts and when we succeed in solving one conflict, we are not assured against the development of another in the future, just as we are not certain that an organic disease, once cured, may not recur.

The first difficulty in attempting to solve the neurotic conflict is that many patients do not even know that they have a conflict. The conflict is unconscious to them and the task of the analyst is to bring this conflict into the open, *to make it conscious*. In order to render a patient accessible to analytic treatment, he must at least be made aware of having a conflict; moreover, he must *suffer*. Patients who do not get this insight and who do not suffer will soon leave the analysis. The wish to be relieved from suffering drives the patient into analysis. Yet, if the analysis is to be brought to a successful conclusion, he has to be able to endure a certain amount of suffering during this period.

In order to understand this we should bear in mind that the neurotic symptom represents a compromise between self-denial of an instinctual demand and its gratification. The patient cannot, at the same time, enjoy the gratification and analyze it. The treatment, therefore must be carried out while the patient is frustrated by preventing the gratification of the particular instinct represented in the symptom. *Some patients can endure these frustrations; others not, and then the analysis fails.*

It is an accepted fact that a physically ill patient is endeavoring to help the doctor in all possible ways. In analysis, we are confronted with a paradoxical situation. Although the patient wants to be cured, at the same time he resists the treatment. As a rule, with the improvement of the patient's health and the favorable development of the analysis the opposition to the treatment becomes greater. Such a phenomenon, in general, does not appear in organic diseases and if it does, we know that the patient is psychically abnormal.

The opposition developed by the patient during his treatment is called *resistance*. Success or failure of the treatment depends largely on the nature of the resistances.

The psychoanalytic treatment, as is well known, is based on a sort of agreement between patient and analyst in which the analyst promises to try to help the patient to overcome his neurotic difficulties and the patient promises to confide all his thoughts to his analyst. All patients break this contract at various points of their analysis and develop resist-

ances which, in some cases, become insurmountable.

What are the causes of these resistances which become sometimes so powerful that they may even imperil the cure?

Instead of complicated theoretical explanations let me give a short example:

A very intelligent and honest man wished to be cured of his depression. Long before he actually came to analysis, his wife and his friends had urged him to be analyzed but he had persistently refused. When he finally decided to be treated, his wife left him. The beginning of his analysis thus coincided with the separation from his wife. Soon after the treatment had started, he felt better. When he ascribed this improvement to the analysis, I remarked that it was too early to expect any results and that, in my opinion, his improvement was rather due to the separation from his wife. He did not agree with me and argued that he still loved her. At the same time, he began to produce more and more dreams which betrayed his latent homosexuality. When I called his attention to the fact that his latent homosexuality was striving for an outlet in his numerous dreams, he became indignant and said, more or less, the following: "Yes, perhaps this or that experience in my life, (which he had brought forth as associations to his dreams) may seem to support your interpretation, but the fact that I do not feel that I have homosexual trends, and never did, is more important than anything else. I cannot accept your interpretation." Since then he developed an utterly stiff resistance and it was impossible to penetrate much deeper.

It is obvious that this resistance was aimed at keeping the patient's homosexual strivings at an unconscious level. But why can the patient not accept his homosexuality, why has he to fight his analyst? Is he afraid of his own instincts? Yes, the ego of all patients is afraid of certain instincts. What compels the ego to fear its own instincts?

In real life. we become frightened when we are confronted with a danger; in other words, we get scared when we feel too weak to cope with an approaching menace. The ego of the neurotic person is weak and reacts therefore to danger with anxiety. The source of this danger, however, is not located in the outside world but within the patient, namely in his instincts. A weak person in real life is helpless and, consequently, does not fight but tries to escape the danger. The weak ego of the neurotic also strives to get away from his inner danger, instinctual demands. One cannot, however, run away from oneself. What one can

do, is to try to push the instincts away, to shut the eyes and ears to their urges, to withdraw one's attention from them. As a result, the ego does not know anything about their existence and its conflicts connected with them. This method of escape we call *repression.* Through this process of self-defense a previously weak ego becomes weaker; it becomes deaf, blind, mute and in many respects inhibited.

If you intend to strengthen a weak person in his combat against a danger, you equip him with better weapons, you train him in their use and encourage him to face the enemy. You cannot fight an invisible enemy and finally defeat him. In principle, the psychoanalyst does the same when he helps the neurotic to cope with his repressed instincts. He fortifies, strengthens the patient's ego by helping him to discover the unknown field of his unconscious, he encourages him to face the supposed dangers within himself, to criticize and reclassify them. Through this readjustment of the ego's attitude towards its instinctual demands, the ego becomes less strained, less tense and restricted, more independent in its judgment and freed of those inhibitions which previously limited its psychic activities to a considerable extent. The ego not only becomes stronger, but a balance is established between the energy of the ego and the energy of the instincts, a balance which, at any moment, can again be upset.

As mentioned before, not all patients respond favorably to the influence of the analyst.

A person's ability to socialize is one of the few essential conditions for his accessibility to any influence by others. In the psychoanalytic situation this ability forms the background for the *transference*, that is, a sort of unconscious shifting of the emotional attachments from father and mother to the analyst. *A partial or complete loss of the ability to transfer emotions renders the analysis either very hard or impossible.* That is the case with extreme narcissists and psychotics.

The transference can be a positive or a negative one; the basic attitude of the patient to his parents, which he shifts to the analyst, can be either love or hate. Usually both these feelings are mixed. As long as the positive feelings prevail, the analysis takes a smooth course. It happens, however, that the positive transference becomes too strong and the patient asks from his analyst real signs of attachment, of love, etc. As mentioned before, the analysis has to be carried out while the patient is frustrated and therefore the analyst must abstain from giving the patient

any gratification he may wish or demand from him. As a consequence, the patient is disappointed and soon the negative transference sets in. The patient starts to fight and spite the analyst, to hate him. *In extreme cases the patient breaks off the treatment and blames the analysis for the failure.* Thus the transference which is essential for the treament, under certain conditions, can become a source of resistances.

However, these resistances can mostly be mastered if carefully and patiently dealt with. Somewhat more difficult to overcome are other resistances.

As already mentioned, *the ego of the neurotic is weak.* The main manifestation of its weakness, perhaps, is its diminished capacity to harmonize psychic processes, in other words, to mediate between the demands of reality, the urges of the instincts and the moral standards of the ego.

If the ego is too weak to cope with the demands of the instincts, it undertakes a certain act which we have already mentioned as repression. This repression, once performed, is, however, not sufficient to check the instincts permanently. Therefore, the ego invents new methods of defense to reinforce them. These form often permanent character traits and habits. Let me illustrate this.

A patient seemed very modest, unassuming, retiring. Though actually brilliant, he felt inferior and was afraid to deal personally with anyone who seemed to be superior to him. Since he feared to make an unfavorable impression, he avoided being the center of attention in any gathering. He preferred to manage his affairs from the seclusion of his office room. Whenever his personal appearance in public was essential, he would send substitutes.

The analysis showed him gradually that, at the bottom, he was by no means so modest, but that on the contrary he was a very ambitious exhibitionist who indulged in elaborate phantasies about enormous successes, about being admired and honored as a hero. When this war broke out, this modest man could hardly resist the temptation to apply for a commission in the army, solely because of the glamour of the officer's uniform.

The childhood history revealed that, at this period, he derived great satisfaction from exposing his body, particularly his genitalia. Of course, he could not do that for a long time and was forced to repress this kind of gratification. But to maintain the repression was difficult, the pressure

of the frustrated instinct was too strong. So in puberty, there occurred a transformation in his ego: instead of indulging in various kinds of exhibitionistic gratification he became the modest, shy, withdrawn young man whom everybody found very pleasant to deal with. With this change in his behavior he developed a character trait which protected him permanently against a certain instinctual drive which, unchecked, would have been a source of conflicts.

There would be no objection to this solution of the conflict, if it did not result in great restrictions of the ego and subsequently in a very serious impairment of its activities. These restrictions and inhibitions, however, cause less discomfort than the constant struggle with the inadmissible instincts. Originally they are defenses, that is, reactions to the pressure of the repressed instincts. Later on they become fixated and stabilized in form of habits and character traits. They are, in fact, infantile ways of reactions of the ego to badly repressed instincts. When the attempt is being made to lift the repressions in analysis, which is always unpleasant to the patient, the old ways of reactions of the ego to the onrush of the instincts flare up very sharply and take, this time, the shape of resistance against the treatment. *The old struggle of the patient's ego against the instincts changes now into the struggle of his personality with the analyst.*

The outcome of this struggle depends on many factors. The resistances which the patients offer to the treatment may be easily overcome if the character traits are acquired, as a reaction to a trauma, caused, for instance, by an accident, frustration, loss of love, physical illness, etc. The problem is more difficult if the character traits have a constitutional background.

Each ego has, constitutionally, its own way of reacting. One person may be inclined to react vigorously, another one softly, one with projections, the other with identifications, etc. These reactions may form a weak spot in the development of the ego. They tend to repeat themselves, even in situations where other reactions would be more adequate. These inadequate reactions persist as peculiar traits of character. A neurosis expressed mainly in peculiarities of behavior is called *character neurosis. In analysis, these peculiarities form very strong resistances and are very difficult to overcome.* Even if the analyst succeeds in changing some of these character traits, the patient frequently relapses and repeats the old reactions and habits, though in a somewhat softened and dis-

guised form. The analyst has to try again and again to show the patient their origin and meaning. Therefore, the analysis of these cases may last for years, endlessly. And yet, this sacrifice on the part of patient and analyst is rewarded by the fact that the patient is being helped. This is not very different from the treatment in some organic diseases; a cardiac patient, for instance, has to be under his physician's care throughout his life.

The resistances against the cure due to the peculiarities of character, however, are not the ones that present the greatest difficulties. The resistances offered by that part of the ego that controls our moral ideals and is called *conscience, rather, superego,* are worse. Fulfillment of these ideals affords a specific pleasure. An attitude conflicting with these ideals causes a specific unpleasurable tension. This tension we call *feeling of guilt,* a term sometimes synonymously used with the term "need for punishment." I cannot go into details. I must, though, mention that conscience with its feeling of guilt is largely responsible for our social behavior, that it helps to subdue our most rebellious instincts, the sex instincts, our aggressions, etc. In as much as it contributes to check these instincts, it is indispensable. An oversensitive conscience, however, renders the individual unhappy, makes him suffer from sins which he did not commit, but which he may have fleetingly wished. Certain patients with an exaggerated feeling of guilt may go through an excellent analysis, may acquire insight into the dynamics of their repressed wishes and ideas and yet may not be cured. They feel unworthy of happiness, they rather enjoy constant repentance as a means of expiation. It is striking how submissive to their fate they are. Another characteristic fact is that an organic disease or a serious misfortune frequently relieves them from their neurotic sufferings.

Not even the feeling of guilt, however, is the most serious obstacle to recovery. There are types of patients whose every thought, idea, emotion, wish and action is accompanied by inner conflicts. I do not mean the ambivalence of the obsessional neurotic alone. In extreme cases it appears that everything patients of this kind experience is a source of immeasurable suffering. Even in dreams they torment themselves. When they enjoy themselves, they suffer like masochists; when others are enjoying themselves and they do not share that feeling, they suffer again, because they do not enjoy themselves. This inclination to inner conflicts, this *need to suffer,* is in certain cases so strong that it leads to dis-

aster. The ego becomes so weak that it gives itself up and yields to the overpowering forces of self-destruction. The analyst is often as unable to prevent the course of events as the internist is in an incurable cancer case.

I must stress that feeling of guilt and inclination to conflicts are not identical, though they may occur together. *Cases with an excessive feeling of guilt and a strong inclination to conflicts present the greatest and most serious difficulties in the work of the analyst.*

All these resistances still do not exhaust the difficulties encountered in analysis. Since I cannot discuss all of them, I wish to refer now to *homosexuality*. As is well known, homosexuality plays an important part in the causation of the neurosis. Man is bisexual. Under normal conditions his homosexual trends are well under control. Where the homosexual trends are more powerful, the control is more difficult, the ego has to develop stronger defenses and the analysis encounters greater resistances. The analyst may point out to the male patient very obvious feminine strivings and to the female patient very obvious masculine strivings, and yet they may not be able to face them. It is not easy to determine the cause of this stubborn resistance—perhaps biology plays a decisive part. *The fact remains that a number of analyses fail at this point.*

Summing up, we see that all the limitations to the psychoanalytic treatment are due to a *relatively* weak ego. It may be an absolutely weak ego confronted with instincts of average strength or an average, normal ego confronted with excessively strong instincts or an exceedingly severe conscience.

It is obvious that the term "weak" or "strong" means certain *quantities* of psychic energy which we, unfortunately, cannot measure, only estimate, Freud says: "Quantitative disharmonies in the distribution of psychic energies are responsible for the inadequacies and sufferings of the neurotic."* Consequently, the treatment is an economic problem: we should either diminish the quantities of the instinctual energies or increase the quantities of the ego energies.

The instincts cannot be influenced in a direct way, they can be influenced only through the help of the ego.

The outcome of the psychoanalytic treatment will depend on the ability to strengthen the relatively weak ego, in other words, on the ability of the analysis to mobilize and release enough energy within the

* Freud, S. Outline of psycho-analysis, *Internat. J. Psycho-Analysis,* 1940, *21*:469.

ego to enable it to cope with the other forces of the personality. In the majority of cases analysis succeeds in this task, ***in some cases it does not.***

For the non-analyst this statement may appear obscure. Let me, therefore, illustrate it with a short example.

A patient, a musician, came to analysis because of anxieties and difficulties in the practice of his profession. I learned, in a late stage of the treatment, of a habit of his to wash his hands before touching his instrument. Hiding this from me had been one form of his resistances. All my attempts to analyze this habit were futile. Finally I asked him to refrain from his hand-washing for the time being, well aware that he would not be able to comply fully with my request. His attempts to refrain from the washing and his inability to do so, produced great conflicts in the patient, which, at times, threatened to terminate the analysis. Fortunately he was not discouraged. Whenever he broke his promise, he felt compelled to think about his habit. For a long time he was convinced that he washed his hands following the advice of a famous teacher. This was merely a rationalization. Gradually, however, new facts emerged. To discuss all the pertaining material would go far beyond the scope of this paper. I would like to give only *one* important step of his analysis. When he, once again, broke his resolution not to wash his hands compulsively, he became aggravated by his own weakness and asked himself why he could not check his habit. He found no answer but, instead, the following recollection came to his mind: Once, when he had felt unhappy, low, desperate and unclean after continuous masturbation he consulted a physician, who advised him to wash his back and genitalia with cold water. Soon afterwards, a teacher pointed out to him that he produced an off-tune, "unclean" note with his instrument. (The patient was brought up in Germany and in German an off-tune note is called an unclean note.) In the same hour he remembered another important fact. At about the age of fifteen he became extremely elated when a member of a very famous symphonic orchestra heard him play his instrument and praised him highly. A few months later he heard a rumor that this musician had developed a stroke and died because he had produced an off-tune, "*unclean*" note, while playing his instrument before an audience. Many years later, when told by his teacher that he produced an "unclean" note, the musician's death came to his mind and he became frightened.

Not until the hour when this material came to the surface did the

patient see the connection between his masturbation and the fear of being punished for it, nor did he recognize that these were reflected in his attitude to his instrument.

This certainly does not exhaust the case, but let me stop here briefly and say the following: By encouraging the patient to refrain from the self-protection of washing his hands, the analyst helped him to face without fear the supposed dangers of masturbation and all wishes and ideas connected with it. Thus his ego became stronger in the combat against this infantile way of gratification.

This is an illustration, though incomplete, of the meaning of the words "mobilization of the energy of the ego."

Those who are not in sympathy with psychoanalysis will, most likely, derive great satisfaction from the fact that a representative of psychoanalysis admits publicly that psychoanalytic treatment can fail. Because of the human need for generalization they might add, I am afraid, analysis as a therapeutic method is of no value.

I can only say that I did not intend to talk about the successes of psychoanalysis; others have done that. What I intended to do was to try to explain from the dynamic viewpoint why certain failures in analysis are natural and cannot be avoided.

Let me close by quoting a few sentences from one of Freud's last works, published posthumously, words which are great in their simplicity:

"The future may teach us how to exercise direct influence, by means of particular chemical substances, upon the amounts of energy and their distribution in the apparatus of the mind. It may be that there are other undreamt of possibilities of therapy. But for the moment we have nothing better at our disposal than the technique of psychoanalysis, and for that reason, in spite of its limitations, it cannot be dismissed."*

* Freud, S. Outline of psycho-analysis, *Internat. J. Psycho-Analysis,* 1940, *21*:469.

LIBRARY NOTES

THE VICAR OF WAKEFIELD BY DR. OLIVER GOLDSMITH A CHECK-LIST OF EDITIONS IN THE LESTA FORD CLAY COLLECTION IN THE LIBRARY OF THE NEW YORK ACADEMY OF MEDICINE

GERTRUDE L. ANNAN
Rare Book Department

This collection was recently presented to the Library in memory of Dr. Linsly R. Williams, former Director of the Academy, by his daughter, Mrs. Lesta Ford Clay, who at one time was a member of the staff of the Rare Book Department. Goldsmith, remembered now for his writings, studied medicine at Edinburgh and is thought to have continued his studies during his travels on the continent. On his return to England he "set up as a physician in Bankside, Southwark," but was apparently unsuccessful in practice. His early connection with medicine, however, warrants the acceptance of this valuable and carefully compiled collection.

The most valuable editions in the collection are the first edition, Salisbury, 1766, the pirated edition which appeared in London in the same year, the first American edition which was published in 1772 and the first edition with the illustrations by Thomas Rowlandson, London, 1817. There are editions in French, German, Dutch, Swedish, one in phonetic spelling and one transcribed in Pitman shorthand. Some editions are well illustrated by such artists as Thomas Bewick, Thomas Rowlandson, John Thompson, Thomas Stothard, Richard Westall, George Dorrington, William Mulready, John Absolon, George Housman Thomas, Hugh Thomson, John Massey Wright, Henry Marriott Paget, Margaret Jameson, Edmund J. Sullivan, Arthur Rackham, Tony Johannot, Charles Emile Jacque, the New York physician Alexander Anderson, Charles Edmund Brock, and others. Memoirs concerning Goldsmith and his work appeared in many editions. Those by Samuel Johnson, George Moir Bussey, John Evans, Austin Dobson, George

Saintsbury, John Forster, Sir Walter Scott, and the physician John Aikin, are worthy of special mention. One edition contains verses about Goldsmith by David Garrick and another edition consists of a dramatized version adapted for the theatre by Thomas John Dibdin.

1766

1. The vicar of Wakefield . . . Salisbury: printed by B. Collins, for F. Newbery . . . 1766. 2 vol.
   First edition.
2. The vicar of Wakefield . . . London: printed in the year 1766. 2 vol.
   Pirated edition.
3. The vicar of Wakefield . . . 2. ed. London: printed for F. Newbery . . . 1766. 2 vol.
4. The vicar of Wakefield . . . 3. ed. London: printed for F. Newbery . . . 1766. 2 vol.
5. The vicar of Wakefield . . . Dublin: printed for W. and W. Smith, A Leathley, J. Hoey sen, P. Wilson, J. Exshaw, E. Watts, H. Saunders, J. Hoey, jun. J. Potts, and J. Williams. [1766]. 2 vol. in 1.
   Date of publication appears in vol. 2 only.
6. The vicar of Wakefield . . . Dublin: printed for W. and W. Smith, A. Leathley, J. Hoey sen, P. Wilson, J. Exshaw, E Watts, H. Saunders, J. Hoey jun. J. Potts, and J. Williams 1766 2 vol. in 1.

1767

7. Le ministre de Wakefield . . . Londres, et se trouve à Paris: chez Pissot . . . Desaint . . . 1767. 2 vol. in 1.
   Translation attributed to Charlotte Jeanne Béraud de Lahaie de Riou, marquise de Montesson.
8. The vicar of Wakefield . . . Dublin: printed for W. and W. Smith, A. Leathley, J. Hoey, sen. P. Wilson, J. Exshaw, E. Watts, H. Saunders, J. Hoey jun. J. Potts, and J. Williams 1767. 2 vol. in 1.

1770

9. The vicar of Wakefield . . . 4. ed. London: printed for Carnan and Newbery . . . 1770. 2 vol.

1772

10. The vicar of Wakefield . . . Philadelphia: printed for William Mentz . . . 1772. 2 vol. in 1.
    First American edition.

1773

11. The vicar of Wakefield . . . 5. ed. London: printed for T. Carnan and F. Newbery, jun. . . . 1773. 2 vol.

1776

12. The vicar of Wakefield . . . 2 ed. Berlin: sold by August Mylius . . . and printed at Altenburgh by Richter. 1776.

1777

13. The vicar of Wakefield . . . London: printed for C. Ware, S. Bladdon, and T. Payne. 1777. 2 vol. in 1.

1779

14. The vicar of Wakefield . . . 6. ed. London: printed for T. Carnan and F. Newbery jun. . . . 1779.

1780

15. The vicar of Wakefield . . . Paris: printed by J. G A. Stoupe; and sold by J. N. Pissot, and Barrois, junior . . . 1780.
16. The vicar of Wakefield . . . Newburyport: printed and sold by John Mycall. [1780]. 2 vol. in 1.

1781

17. The vicar of Wakefield . . . London: printed for Harrison & Co. . . . 1781.
18. The vicar of Wakefield . . . London: printed for J. Davies; T. Smith; N. Taylor, and W. Thompson. 1781. 2 vol.
19. Der Dorfprediger von Wakefield . . . Von neuem verdeutscht. 2. verbesserte Aufl. Hamburg und Altona, 1781.

1784

20. The vicar of Wakefield . . . 3. ed. Berlin: printed for August Mylius . . . 1784.
21. The vicar of Wakefield . . . Revised by Mr. D*** . . . 2. ed. Paris: sold by Theophilus Barrois, junior . . . 1784.

1787

22. The vicar of Wakefield . . . 8. ed. London: printed for Thomas Carnan . . . Samuel Bladon and John Bew . . . 1787.
23. The vicar of Wakefield . . . 1. ed. With accents. Halle, printed and sold by Friedrich Daniel Francke. 1787.

1789

24. The vicar of Wakefield . . . London: printed for Joseph Wenman . . . 1789.

1790

25. The vicar of Wakefield . . . Glasgow: printed by J. and M. Robertson. 1790. 2 vol. in 1.

1791

26. The vicar of Wakefield . . . Perth: R. Morison; Edinburgh: N. Chyne, 1791. 2 vol.

1792

27. The vicar of Wakefield . . . London: printed for A. Law, W. Millar, and R. Cater. 1792. 2 vol. in 1.
28. The vicar of Wakefield . . . London: printed by Sammells and Ritchie, for E. Harding . . . and J. Good . . . 1792. Illustrated by Thomas Stothard.
29. The vicar of Wakefield . . . London: printed for Ogilvy and Speare, 1792. [Col.: Printed by T. Bensley . . .]
30. The vicar of Wakefield . . . Providence: by Bennett Wheeler . . . 1792. 2 vol. in 1.

1794

31. The vicar of Wakefield . . . Mit richtigen Accenten versehen und mit einer Anleitung zum Gebrauch derselben begleitet von J. Ebers. Berlin: bei Gottfried Carl Nauck . . . 1794.

1795

32. Land-prästens j Wakefield . . . 3. upl. Stockholm: tryckt hos Johan A. Carlbohm, 1795.

1796

33. The vicar of Wakefield . . . Vienna: printed for R. Sammer . . . 1796.
34. Le curé de Wakefield. Traduit de l'anglais, par M. J. B. Biset . . . Londres: chez l'auteur . . . T. Cadell . . . & G. Davies . . . Deboffe . . . & Tindal . . . 1796.
35. Der Dorfprediger von Wakefield . . . Von neuem verdeutscht. 3. Aufl. Leipzig: in der Weidmannischen Buchhandlung. 1796.

1797

36. The vicar of Wakefield . . . new ed. Paris: printed for Gay et Gide. 1797.
37. Le vicaire de Wakefield . . . Traduction nouvelle, par le [Pierre Louis] C[laude]. Gin . . . Paris: de l'imprimerie de Gay et Gide. 1797. 2 vol. Title and text in French and English.

1798

38. The vicar of Wakefield . . . embellished with wood cuts, by T. Bewick. Hereford: D. Walker, 1798. 2 vol. in 1.

1799

39. The vicar of Wakefield . . . Stereotype edition. Paris: printed by P. Didot, the elder . . . Seventh year of the French republic [1799].
Notes signed "S.B.": pp. [196]-199.

1800

40. The vicar of Wakefield . . . [With a life of the author, and with verses about him by David Garrick.] Paris: printed for Ant. Aug. Renouard. 1800. 2 copies.
41. The vicar of Wakefield . . . Hannover: printed for Hahn. [?ca. 1800].
42. The vicar of Wakefield . . . To which is prefixed memoirs of the author [by Samuel Johnson] . . . Dublin: printed by T. Henshall . . . [?ca. 1800]. 2 vol. in 1.

1801

43. The vicar of Wakefield . . . new ed. London: printed by M. Allen . . . for West and Hughes . . . and E. Harding . . . 1801.
Illustrated with 6 plates by Thomas Stothard.
44. The vicar of Wakefield . . . In Goldsmith's: Miscellaneous works . . . A new ed. London, 1801, vol. 1.
45. The vicar of Wakefield . . . Salem: printed by Joshua Cushing, for Cushing & Appleton, 1801. 2 vol. in 1.

1802

46. The vicar of Wakefield . . . Manchester: Clarke & Co.; Liverpool: Jones; and Hull: Rawson & Rodford, 1802. 2 vol. in 1.

1803

47. Le ministre de Wakefield . . . Traduction nouvelle, par E*** A*** [Etienne Aignan] . . . Paris: chez F. Louis, 1803.

1806

48. The vicar of Wakefield . . . London: published by Vernor, Hood, & Sharpe . . . Lackington, Allen & Co. . . . Printed and sold by J. Robertson . . . Edinburgh, 1806.

1807

49. The vicar of Wakefield . . . Hanover: sold by the brethern [sic] Hahn, 1807.
50. The vicar of Wakefield . . . New-York: printed and sold by James Oram . . . 1807.
Illustrated by Alexander Anderson.

1809

51. The vicar of Wakefield . . . Wellington: F. Houlston and Son, 1809. 2 vol. in 1.
52. The vicar of Wakefield . . . To which are prefixed memoirs of Oliver Goldsmith by John Aikin. Walpole, N.H.: published by Thomas & Thomas, Cheever Felch, printer, 1809.

1812

53. The vicar of Wakefield . . . Gainsborough: Stereotyped for Henry Mozley, 1812.
54. The vicar of Wakefield . . . new ed. London: printed . . . by Allen & Co. . . . 1812.
Illustrated with 6 plates by Thomas Stothard.
55. The vicar of Wakefield . . . To which is prefixed an account of the author's life . . . by . . . J. Evans . . . London: Albion Press: printed for J. & J. Cundee . . . [1812].
Woodcuts in text possibly by Thomas Bewick; engraving probably by William Marshall Craig and Luke Clennel.

1815

56. The vicar of Wakefield . . . London: printed for Whittingham and Arliss . . . 1815.
Illustrations by John Thompson.

1816

57. Le curé de Wakefield, roman traduit de l'anglois . . . par M. de Russy . . . New-York: Joseph Desnoues, 1816. 2 vol.
Title and text in French and English. Published with poems by the author and the covering title: Chefs d'oeuvre . . . New York, 1815-1816.

1817

58. The vicar of Wakefield . . . London: published by R. Ackermann . . . 1817.
Illustrated with 24 colored plates by Thomas Rowlandson.
59. The vicar of Wakefield: a melo-dramatic burletta, in three acts; first performed . . . August 25, 1817. [Adapted] by Thomas Dibdin . . . London: printed for John Miller . . . by B. McMillan . . . 1817.

1818

60. The vicar of Wakefield . . . London: printed for John Sharpe . . . by C. Whittingham . . . 1818-[1819].
Illustrations by Richard Westall and engraved title-page dated 1819.

1820

61. The vicar of Wakefield . . . With the life of the author, by Dr. [Samuel] Johnson . . . A new ed. carefully revised and corrected. London: printed for Dean and Munday . . . 1820.
(Cooke's pocket edition of select novels.)

1821

62. Le ministre de Wakefield . . . nouv. éd., revue et corrigé. Paris: chez Roret et Roussel, 1821. 2 vol.

1822

63. The vicar of Wakefield. Chiswick: C. Whittingham, 1822.
Illustrated by John Thompson.

1825

64. The vicar of Wakefield . . . London: printed for Thomas Tegg . . . R. M. Tims, Dublin; and R. Griffin and Co., Glasgow. 1825.
Illustrated by John Thompson.
65. The vicar of Wakefield . . . London: published by Jones & Company . . . 1825. (University edition.)
66. The vicar of Wakefield . . . Paris: Baudry, 1825.
67. Le ministre de Wakefield. Traduction nouvelle, précédée d'un essai sur la vie et les écrits d'Olivier Goldsmith, par M. [Joseph François Gabriel] Hennequin. Paris: Brédif, 1825.

1826

68. Le ministre de Wakefield. Paris: chez Dauthereau, 1826. 2 vol.

1827

69. De leeraar van Wakefield . . . Dordrecht: J. de Vos en compie. 1827.

1828

70. Der Landprediger von Wakefield . . . Aus dem Englischen Uebertragen von C. v. S. Quedlinburg und Leipzig: Gottfr. Baffe, 1828. 2 vol.
71. The vicar of Wakefield . . . London: printed for John Sharpe . . . 1828-[1829].
Illustrated by Richard Westall. Engraved title-page dated 1829.

1831

72. Le ministre de Wakefield. Traduction nouvelle, précédée d'un essai sur la vie et les écrits d'Olivier Goldsmith, par M. [J. F. G.] Hennequin . . . d'après l'edition de Paris. Boston: Gray & Bowen, 1831.

1833

73. The vicar of Wakefield . . . Paris: Baudry's European Library, 1833.

1838

74. Le vicaire de Wakefield . . . Traduit . . . . par Charles Nodier, précédé d'une notice par le même sur la vie et les ouvrages de Goldsmith . . . Paris: Bourgueleret, 1838.
Illustrated with 10 plates by Tony Johannot.

1839

75. Le vicaire de Wakefield. Traduction nouvelle, par Louise Belloc; précédée d'une notice par Sir Walter Scott. Paris: Charpentier, 1839.

1841

76. The vicar of Wakefield . . . Illustrated . . . by George Dorrington, with a prefatory memoir of the author, by G. Moir Bussey . . . London: Willoughby & Co. . . . 1841.

1842

77. The vicar of Wakefield . . . With an account of the author's life and writings, by J. Aikin. New York: D. Appleton & Co., 1842.

1843

78. The vicar of Wakefield . . . With thirty-two illustrations, by William Mulready, R.A. London: John van Voorst . . . 1843.
Illustrations engraved by John Thompson. Contains an autograph letter signed, from William Mulready, 1821.

1844

79. Le vicaire de Wakefield. Traduction nouvelle par Charles Nodier. Avec un notice par le même sur la vie et les oeuvres de Goldsmith.
Vignettes par Tony Johannot. Paris: J. Hetzel, 1844.

1846

80. The vicar of Wakefield . . . With an account of the author's life and writings, by J. Aikin. New York: D. Appleton & Co.; Philadelphia: George S. Appleton, 1846.

1848

81. The vicer ov Wacfeld, and select poemz . . . Lundun: Fred Pitman . . . 1848.
Edition with phonetic spelling and half-title: Goldsmith's select wurcs.

1850

82. Le vicaire de Wakefield. Traduction nouvelle précédée d'une notice sur la vie et les ouvrages de Goldsmith et suivie de notes par Charles Nodier. 10 vignettes dessinées par T. Johannot, gravées sur acier par Revel. Paris: Victor Lecou, Hetzel et cie, [?ca. 1850.]

1853

83. Le vicaire de Wakefield, traduction de Charles Nodier. Illustrée par Jaques. 4. ed. Paris: E. Blanchard, 1853. 2 vol. in 1.

1855

84. The vicar of Wakefield . . . With illustrations by John Absolon. London: Grant and Griffith, 1855.
85. The vicar of Wakefield . . . Illustrated by George Thomas. London: Joseph Cundall, 1855.

1859

86. Le vicaire de Wakefield, traduction par Charles Nodier, illustrée . . . par Tony Johannot. Paris: éd. Hetzel, L. Hachette et cie, [1859].

1860

87. The vicar of Wakefield . . . London: James Hogg & Sons, [1860.]

1880

88. The vicar of Wakefield . . . New York: Albert Cogswell, 1880.

1881

89. The vicar of Wakefield . . . Philadelphia: Porter & Coates, [1881.] (Alta edition.)

1883

90. The vicar of Wakefield . . . With a preface and notes by Austin Dobson. London: Kegan Paul, Trench & Co. 1883.
91. idem. Another copy. Large paper edition, consisting of fifty copies, of which this is no. 32.

1885

92. The vicar of Wakefield . . . Being a facsimile reproduction of the first edition published in 1766. With . . . a bibliographical list of editions . . . London: Elliot Stock, 1885. 2 vol.
93. Le vicaire de Wakefield, traduction nouvelle et complète par B.-H. Gausseron. Paris: A. Quantin, [1885].
    Illustrated by V. A. Poirson. No. 11 of an edition of 100 copies.

1886

94. The vicar of Wakefield . . . With prefatory memoir by George Saintsbury . . . London: J. C. Nimmo, 1886.
    Illustrated by V. A. Poirson.

1888

95. Le vicaire de Wakefield, traduction, préface et notes par Charles Nodier. Eaux-fortes par Ad. Lalauze, nouv. éd. Paris: Lib. des bibliophiles, 1888. 2 vol.
    Ordinary edition.
96. idem. Another copy, no. 3 sur papier du Japon.
97. idem. Another copy, no. 22, sur papier de Chine.
98. idem. Another copy, no. 39, sur papier Whatman.
99. idem. Another copy, no. 100, sur papier de Hollande.

1890

100. The vicar of Wakefield . . . With a preface by Austin Dobson and illustrations by Hugh Thomson. London and New York: Macmillan & Co., 1890.
101. idem. Another copy. Large paper edition.

1893

102. The vicar of Wakefield . . . Illustrated with etchings by Ad. Lalauze. London: Gay and Bird, 1893. 2 vol. (Édition Jouaust.)
    No. 12 of a limited edition of fifty copies for the English market.

1903

103. The vicar of Wakefield . . . Chiswick: Caradoc Press, 1903.
    No. 102 of a limited edition of 374 copies.
104. The vicar of Wakefield . . . Including John Forster's essay on the story, and containing . . . illustrations in colour by John Massey Wright . . . London: A. & C. Black, 1903.
    No. 12 of an edition of 250 copies.

1904

105. The vicar of Wakefield . . . With colored illustrations by C. E. Brock. New York: E. P. Dutton, [1904.] (Series of English idylls.)

1910

106. The vicar of Wakefield . . . With twenty-four illustrations in colour by Margaret Jameson. London: Chapman & Hall ltd. [1910.] (Burlington library.)
107. The vicar of Wakefield . . . Illustrated by H. M. Paget. London: Ernest Nister; New York: E. P. Dutton & Co. [?ca. 1910.]

1914

108. The vicar of Wakefield . . . Illustrated by Edmund J. Sullivan. London: Constable & Co., 1914.
No. 177 of an edition of 500 copies.

1916

109. Illustrated edition of the vicar of Wakefield . . . Intermediate style of Pitman's shorthand, Isaac Pitman. London: Sir Isaac Pitman & Sons; Bath: Phonetic Institute; Melbourne: the Rialto; New York; Toronto: Commercial text-book Co. [1916.] (Centenary edition.)
Text in shorthand.

1926

110. The vicar of Wakefield . . . Illustrated with twenty-four coloured designs by Thomas Rowlandson . . . [London]: Chiswick Press for Constable & Co. and Houghton Mifflin Co., 1926.

1928

111. The vicar of Wakefield . . . Edited . . . by Oswald Doughty. London: Scholartis Press, 1928. (The Scholartis eighteenth-century novels, no. 4.)

1929

112. The vicar of Wakefield . . . Illustrated by Arthur Rackham. London; Bombay; Sydney: G. G. Harrap & Co., [1929.]
No. 371 of the English issue of 575 copies.